REMARKS

I. Status of the claims

Claim 1 and 2 are amended.

Claims 1-3, 17-19, and 21-22 are pending.

Claims 4-16 and 20 are withdrawn.

II. An Expert Declaration is Submitted to Show that the Teaching of Regenmortel Does Not Satisfy the Legal Criteria for Anticipation

As the Interview Summary sent by the examiner reiterates, Regenmortel does **not** teach all the elements of claim 1.

Applicant is dismayed that even after the extensive interview of April 21, 2004 in which the examiner, SPE Le, the inventor, Mr. Lazarus and the undersigned representing the applicant, discussed why Regenmortel does not teach all the claimed elements and does not satisfy the legal requirement for an anticipation rejection, the examiner persists in maintaining this rejection.

A Declaration under 37 C.F.R. § 1.132 by Dr. Byron Anderson, an expert in the field of immunology, is appended as Exhibit A. His Curriculum Vitae is Exhibit B. As Dr. Anderson testifies, mimotopes as reviewed by Regenmortel, "are not proteins or peptide sequences derived from proteins" (Exhibit A, par. 4a) (any homology of a mimotope sequence to a protein sequence is by chance only). Furthermore, Dr. Anderson testifies that the mimotopes of Regenmortel "cannot be defined as a comparative protein as the examiner has done...." (Exhibit A, par. 4a)

Dr. Anderson testifies that the present invention is "unique and inventive", (Exhibit A, par. 4b) and is "a contribution to the field of immunology". (Exhibit A, page 6)

Regenmortel expressly defines his review as of the:

> Steadily increasing ability to identify antigenic sites in viral proteins and then to design linear peptides that mimic the three-dimensional conformational features of key immunodominant sites in viral proteins.

Note that mimotopes are synthetic peptides designed to minimize a 3-D composition. Claim 1 is not limited to synthetic peptides, which, according to the examiner, is taught in Regenmortel (Action page 2, par. 2).

All claims in the present application relate to claim 1. Claim 1 is amended herein for clarity, but the elements are the same as original claim 1. The examiner's attempts to force parts of

Regenmortel into a shoe that doesn't fit, *i.e.*, claim 1, is illustrated below and testified to by Dr. Anderson (Exhibit A):

Elements of Claim 1	**The Examiner's Selections from Regenmortel (Action pages 2-3)**
immunogenic peptide	mimotopes, mimotope 13
target protein	viral protein, HbsAg, HCV35-47
comparative protein	mimotopes, HCV, mimotope 17, 14 or P715c

There are target proteins, immunogenic peptides with a portion of the target protein sequence, and comparative proteins in claim 1.

In contrast, Regenmortel only has "mimotopes" and viral antigens. There is no correspondence with the three elements of claim 1. "Mimotopes" are used for two separate elements of claim 1. Therefore, by definition Regenmortel does not anticipate claim 1.

The examiner relates his mimotopes both to "peptides" and to "comparative proteins". In the example given on page 3, "HbsAg" is the target, HCV the "comparative protein"

The examiner equates "HCV 35-47 to a target protein and mimotope 17 or mimotope 14 as a comparative protein. (According to the examiner a "comparative protein" is a "non-target protein having less than 50% homology") as well as designating "mimotope 13" as a "peptide" but this mimotope is not derived from a target protein.

If the examiner thinks mimotopes are analogous to claim 1's "target protein", that would teach **away** from the present invention because the peptides of claim 1 **expressly** show sequence similarity to a target protein, whereas the mimotopes of Regenmortel by definition show dissimilar sequences.

The examiner misreads the claimed application because the comparative proteins are compared with the "immunogenic peptides" not to the target proteins [(see claim 1(c))]. The comparative proteins are **NOT CLAIMED**. The preamble clearly defines "peptides" as the claimed composition.

The court in Eaton Corp. v. Rockwell Int'l Corp., 323 F.3d 1332 stated:

"In general, a preamble limits the [claimed] invention if it recites essential structure or steps, or if it is 'necessary to give life, meaning, and vitality' to the claim." Catalina Mktg. Int'l, Inc. v. Coolsavings.com, Inc., 289 F.3d 801, 808, 62 USPQ2d 1781, 1784 (Fed. Cir. 2002) (quoting Pitney Bowes, Inc. v. Hewlett-Packard Co., 182 F.3d 1298, 1305, 51 USPQ2d 1161, 1165 (Fed. Cir. 1999)). "[A] claim preamble has the import that the claim as a whole suggests for it. In other words, when the claim drafter chooses to use both the preamble and the body to define the subject matter of the claimed invention, the invention so defined, and not some other, is the one the patent protects." Bell Communications Research, Inc. v. Vitalink Communications Corp., 55 F.3d 615, 620, 34 USPQ2d 1816, 1820 (Fed. Cir. 1995). When limitations in the body of the claim rely upon and derive antecedent basis from the preamble, then the preamble may act as a necessary component of the claimed invention. See, e.g., Electro Sci. Indus. v. Dynamic Details, Inc., 307 F.3d 1343, 1348, 64 USPQ2d 1781, 1783 (Fed. Cir. 2002); Rapoport v. Dement, 254 F.3d 1053, 1059, 59 USPQ2d 1215, 1219 (Fed. Cir. 2001); Pitney Bowes, 182 F.3d at 1306, 51 USPQ2d at 1166. On the other hand, "if the body of the claim sets out the complete invention," then the language of the preamble may be superfluous. Schumer v. Lab. Computer Sys., Inc., 308 F.3d 1304, 1310, 64 USPQ2d 1832, 1837 (Fed. Cir. 2002); Bristol-Myers Squibb Co. v. Ben Venue Labs., Inc., 246 F.3d 1368, 1373-74, 58 USPQ2d 1508, 1512 (Fed. Cir. 2001).

The court in Pitney Bowes, Inc. v. Hewlett-Packard Co., 182 F.3d 1298 stated:

If the claim preamble, when read in the context of the entire claim, recites limitations of the claim, or, if the claim preamble is "necessary to give life, meaning, and vitality" to the claim, then the claim preamble should be construed as if in the balance of the claim. Kropa v. Robie, 38 C.C.P.A. 858, 187 F.2d 150, 152, 88 U.S.P.Q. (BNA) 478, 480-81 (CCPA 1951); see also Rowe v. Dror, 112 F.3d 473, 478, 42 U.S.P.Q.2D (BNA) 1550, 1553 (Fed. Cir. 1997); Corning Glass Works v. Sumitomo Elec. U.S.A., Inc., 868 F.2d 1251, 1257, 9 U.S.P.Q.2D (BNA) 1962, 1966 (Fed. Cir. 1989).

III. Because Rejections Based on Regenmortel are Faulty, Regenmortel Must be Removed as a Basis for the 103 Rejections

Claims 18-19 were rejected as obvious over Regenmortel and Hasegawa. Claim 22 was rejected as obvious over Regenmortel and Tu.

Because, as shown in Section II herein, and the Declaration Under 1.132 (Appendix A) that Regenmortel does not teach the peptides of the present invention, these rejections fall also.

IV. Other

In claim 1, (a) and (b) are combined.

If required, supplemental expert Declarations are available.

V. Conclusion

Application requests allowance of pending claims as amended herein.

No fees are believed due at this time, however, please charge any additional deficiencies or credit any overpayments to deposit account number 12-0913 with reference to our attorney docket number (21417/92378).

Respectfully submitted,

Alice O. Martin

Alice O. Martin
Registration No. 35,601

Dated: July 16, 2004

Barnes & Thornburg
P.O. Box 2786
Chicago, IL 60690-2786

EXHIBIT A

BARNES & THORNBURG

P.O. Box 2786
Chicago, Illinois 60690-2786
(312) 357-1313
(312) 759-5646 Fax

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Group:	1641
Confirmation No.:	
Application No.:	09/848,967
Invention:	IMMUNOGENIC PEPTIDES AND USES THEREOF
Applicant:	Emanuel Calenoff and Charles Ditlow
Filed:	May 4, 2001
Attorney Docket:	21417/92378
Examiner:	CHEU, CHANGHWA J

I hereby certify that this correspondence is being deposited with the United States Postal Service as Express Mail No. EL 99003872 US in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450

on July , 2004

Alice O. Martin
Registration No. 35,601

DECLARATION UNDER 37 C.F.R. § 1.132

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

I, Byron Anderson, have read the patent application captioned above. A copy of my curriculum vitae is appended to indicate my expertise in the area of the invention described therein.

I have approximately 39 years of research experience in protein and peptide structures, immunochemistry and antibody responses. I recently retired from a faculty position at the Medical School of Northwestern University after 32 years of service. I taught for all those years the subjects of protein structure and peptide chemistry, and immunochemistry, including the subjects of antibody binding to epitopes and what constitutes an epitope of various chemical natures. I am now employed as a consultant to two companies on the subjects: peptide immunogens for eliciting antibodies with

selective reactivities to an alcoholic related form of the transferrin glycoprotein (this is the subject of a patent of which I am a co-inventor as listed on my CV), and a peptide library of D-aromatic rich peptides that show high affinites for various proteins of clinical interest (a patent application has been filed on this subject with myself as sole inventor as listed on the CV). We have also published papers and filed patent applications on the subjects: (1) production of antibodies to a N-terminal sequence of a connective tissue activating protein, (2) a peptide sequence which binds immune complexes, (3) antibodies to a reduced Glc-peptide of the N-terminus of glycated-hemoglobin which selectively binds such protein, and (4) a peptide sequence prediction algorithm for carbohydrate binding sites of proteins.

With this background I feel I can comment knowledgeably about the Calenoff – Ditlow patent application and the patent examiner's discussion.

1. I have no relationship to the patent application captioned above, and will not benefit financially from its commercial development.

2. In my review of the documents sent to me, I first read the review paper by Regenmortel, Mark H.V. (1998) ASM News/vol. 64, no. 6, pp. 332-338, then the Calenoff – Ditlow patent application, followed by the patent examiner's comments in the Office Action mailed May 17, 2004.

3. I understand that the examiner believes that several publications, in particular Regenmortel, teach the same things as the present invention, or make it obvious.

4. I will first describe the major elements of the Regenmortel paper and comment here and later on the relationship to the examiner's comments and the patent application as follows:

   a. The Regenmortel paper (the paper) first explains what is generally accepted as definitions for epitopes of peptide chemical nature (continuous or discontinuous), and for paratopes (those portions of a receptor, for example, the antibody combining site regions), for epitope-paratope non-covalent binding interactions which define specificities and affinities, and why a peptide of dissimilar sequence from the epitope peptide sequence may bind into the same paratope regions via a summation of different atomic non-covalent bondings or by the use of other sub-regions within the paratope regions. The paper also describes mimotopes: Mimotopes are peptides

usually identified from combinatorial peptide libraries which functionally mimic the epitope, ie, by binding with some defined affinity to the same receptor as the epitope (in the cases cited, binding to antibody combining sites). The sequence of the peptide mimotope may have some sequence similarity to the epitope or may have no sequence homology, the specific non-covalent bonding interactions of mimotope peptide to the paratope regions having some similarities or being very dissimilar to those of the epitope bondings. **At this point it should be noted that mimotopes are not proteins, or peptide sequences derived from proteins, and mimotopes cannot be defined as a comparative protein as the examiner has done in his comments on the patent application.**

In Figure 4, Regenmortel shows some viral protein peptide sequences and 4 mimotopes that show various amounts of homologies. The reason there are homologies of the mimotopes to the viral peptide sequences is: Peptide libraries are generated by phage tail protein displays of randomized sequences of peptides at the N-terminus of the tail protein, or the libraries are chemically synthesized on beads (Tenta-Gel beads are those preferred) by an addition – mix process. Such libraries (if all 20 different amino acids are used) should contain all possible peptide sequences of the length chosen (eg, hexapeptides). Therefore, within the library one should find both the exact sequence of an epitope of equal length as well as many peptides of sequence homology. Thus, the libraries of mimotopes will contain some number of peptide sequences that will functionally mimic an epitope and exhibit such homologies.

Regenmortel then has a short description of the prediction of viral antigens: surface accessibility of such peptide sequences and N- or C-terminal locations (by well known algorithms and as used by Calenoff-Ditlow), and mentions using overlapping peptide sequence analyses to empirically discover reactive peptides.

b. The Calenoff-Ditlow application describes methods for identifying epitopes of proteins of interest: A selection of proteins (the target proteins) of a microorganism or other protein associated with a disease state is first made. Then published algorithms are used to ascertain which peptide regions are more likely to be exposed on the protein surface and thus accessible for binding with antibody reagents. Then follows

the unique and inventive steps of Calenoff-Ditlow: The protein surface probable sequences (the PSP sequences) are compared to all other known proteins (comparative proteins) for possible sequence homologies and those which are less than 50% homologous to sequences of other proteins, and which have less than 4 or more contiguous amino acids identical to the comparative protein sequences, are selected for use as immunogens and are the peptides for which composition claims are made. The resulting antibody reagents are then tested for reactivities to antigens in sera of persons with particular disease states related to the initial selected (target) protein(s), and compared to reactivities of sera of a control group. Obviously, those reacting with antigens in the particular disease state and not with controls can then be studied for utility as diagnostic reagents or as therapeutic agents. Examples are given and the data therein clearly support the invention idea and the utility. The invention, in my opinion, is consistent with the claims: peptide sequences of particular utility and the compositions of those selected and tested peptides.

c. The examiner states (under number 102) that Regenmortel teaches the method of identifying peptide epitopes using in the first steps the algorithm prediction programs. This is fine and is also used by Calenoff-Ditlow as discussed above. The examiner then says that Regenmortel teaches the functional, and to varying degrees the sequence homologies, of mimotopes. The examiner then equates the mimotope peptide (number 13) to a peptide sequence selected by the method of Calenoff-Ditlow because of points (a) through (f) as listed by the examiner.

Reasons why this is not a correct interpretation or correlation to the Calenoff-Ditlow method:

1) The mimotope is **not** derived from the protein HbsAg sequence 120-132 as the examiner states (point b), therefore no predetermined link exists between the mimotope sequence and the target protein. Rather, the mimotope is derived from the peptide library and may have certain sequence homology to the HbsAg sequence for the reasons discussed above. However, the mimotope is an entirely different entity from either the target protein or the comparative proteins, or the peptides described in Calenoff-Ditlow. Thus it is incorrect to assign any equivalence of fact or inference.

2) A mimotope is **not** an immunogenic peptide equivalent to those used by Calenoff-Ditlow. Immunogenic means that the peptide has been demonstrated to elicit an immunologic response, cell-mediated or antibody. Again, the mimotopes are derived from a peptide library and were not used as immunogens in the examples of the Regenmortel paper. In Calenoff-Ditlow, the identified peptide sequences of the target proteins are used as immunogens.

3) The HCV protein of Figure 4 of Regenmortel could be used as a comparative protein as the examiner states. However, the examiner has taken this example out of the context of the Regenmortel paper, and as would be generally used by immunologists (and as used by Calenoff-Ditlow). It is true that the HCV sequence 20-32 shows no homology to the HbsAg sequence 120-132 as the examiner states. However, as used by Regenmortel, this is simply an additional example of a protein antigenic sequence for which a mimotope was identified, ie, the mimotope P551c. In contrast, parts of the invention steps of Calenoff-Ditlow are to compare the PSP sequences to **all other known protein sequences and then to select those PSP sequences of less than 50% homology and less than 4 contiguous amino acid sequences.** This is quite different and bears no relationship to the fact that the various peptide sequences in Figure 4 of Regenmortel do not exhibit any or little homology of sequences.

4) The conclusion of the examiner is that the "Regenmortel's reference anticipated the current invention." I do not believe there is a single immunologist who works with peptide – protein antigens and epitopes who would agree with the latter conclusion. As stated above, the invention of Calenoff-Ditlow is the peptide selection method and the compositions of the peptides selected by those methods – both the methods and the peptides of Calenoff-Ditlow are neither described nor hinted at in the Regenmortel paper.

d. Under claim rejections – 35 USC number 103, part 3:

The examiner rejects claims 18-19 because:

"Regenmortel teaches using recombinant technology ------- to synthesize peptides capable of producing immunogenicity ---." Any peptide, including mimotope peptides, could potentially be used as immunogens, as the examiner states, by coupling to a carrier molecule to enhance immunogenicity. However, as pointed out above, it is incorrect to use the mimotope example in Regenmortel, or in any other way by anyone, in comparison or in relation to the identified peptide sequences from the target proteins as described by Calenoff-Ditlow. Thus, the premise used by the examiner is incorrect.

e. Under part 4: The examiner rejects claim 22 using the example of IL-2 to induce immune tolerance to specific respiratory antigens. IL-2 is a **protein** with defined biologic activities including the example cited by the examiner. The PSP sequences selected by the invention of Calenoff-Ditlow are peptides and a part of a protein, the target protein. One cannot equate the **protein** and **peptides** of the Tu et al. reference and the Calenoff-Ditlow patent application; the protein and peptides are quite different entities, both as they are defined, and as they are exist structurally - IL-2 has a defined 3D secondary and tertiary structure whereas Calenoff-Ditlow peptides, as free peptides or as conjugated to a carrier molecule, will more likely exhibit multiple secondary structures over any time interval (such peptides would be termed to have "random" structure).

Finally, I am unaware of any previous work or reports other than Calenoff-Ditlow of the invention disclosed in the patent application captioned above. I believe the patent application captioned above discloses an invention that is a contribution to the field of immunology.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the Untied States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Respectfully Submitted,

Byron E. Anderson

Byron Anderson

Date: 7/16/04

EXHIBIT B

CURRICULUM VITAE

Byron E. Anderson

Date of Birth: December 30, 1941; Hammond, Indiana

Education:

B.A.	1963	Kalamazoo College, Kalamazoo, Michigan; Chemistry and Biology
Ph.D.	1968	University of Michigan, Ann Arbor, Michigan; Biochemistry; also student at John Hopkins University, Baltimore, Maryland 1966-1968. Thesis Advisor: Dr. Saul Roseman

Positions Held:

Postdoctoral Fellow - 1968-1971, Columbia University, College of Physicians and Surgeons, New York, New York. Advisor: Dr.Elvin A. Kabat.

Assistant Professor, Departments of Biochemistry, and Otolaryngology and Maxillofacial Surgery, Northwestern University Medical School, 1971-1977.

Associate Professor, Departments of Biochemistry, and Otolaryngology and Maxillofacial Surgery, Northwestern University Medical School, 1977-1982.

Associate Professor, Department of Molecular Biology and Biochemistry Program 1982-1984.

Professor, Departments of Molecular Biology, and Otolaryngology and Head and Neck Surgery, Northwestern University Medical School, 1984-1989.

Professor, Departments of Cell and Molecular Biology, and Otolaryngology and Head and Neck Surgery, Northwestern University Medical School, 1989-present.

Professor, Department of Urology, 1995 - present.

Member, Cancer Center, 1975 -

Member, Arthritis Research Program, 1976 - ; Multipurpose Arthritis Center, 1983 -

Member, Tumor Cell Biology Program, 1979 -

Member, Interdisciplinary Program in Molecular, Cellular and Integrative Biomedical Sciences, 1983 - 1990.

Member, Molecular and Cellular Biology Training Program, 1983 -
Member, Medical Scientist Training Program, 1985 -

Member, Biotechnology Training Program, 1993 -

Honors and Fellowships:

1974-1979, Research Career Development Awardee of NIH (NIAMDD)

1973-1974, Senior Investigator of the Arthritis Foundation

1968-1971, Postdoctoral Fellow of the Helen Hay Whitney Foundation and the National Cystic Fibrosis Research Foundation

1963-1968, United States Public Health Service Trainee

1963, summer National Science Foundation Undergraduate Trainee

Professional Societies and Activities:

American Association for the Advancement of Science
American Society of Biochemistry and Molecular Biology
American Association of Immunologists
International Society for Oncodevelopmental Biology and Medicine
Society for Complex Carbohydrates
American College of Rheumatology
International Society for Artificial Organs
The Protein Society
Advisor or Consultant to a number of biotechnology companies: Sangtec Medical, Fresenius, Abbott Labs., Chugai Pharm. LTD, Vivex Therapeutics,Inc., Carbohydrates Int., Toagosei Pharm.

Students:

Celia Kaye, Ph.D.,	1976
Linda Hanson, M.S.,	1976
Margaret Steffes, M.S.,	1977
Lorraine Gill, Ph.D.,	1977
Tod Sloan, Ph.D.	1979
John Jay Weiss, M.S.,	1979
Lyman Davis, M.S.,	1980
Mark Pankow, M.S.,	1983
Lyman Davis, Ph.D.	1984
Ruth Entiwstle, Ph.D.,	1986
John Jay Weiss, Ph.D.,	1986
Mark Pankow, Ph.D.,	1988
Michael Baumann, Ph.D.,	1990
Michael Shields, Ph.D.,	1991
John J. Kresl, Ph.D.,	1992
Marilyn Brown, Ph.D.,	1992
Winnie Pao, M.S.	1993
NaMi Cho, M.S.,	1994
Joseph Orlando, M.S.,	1994
Sanjiv Gupta, M.S.,	1994
Katherine Worthington, Ph.D.,	1994
Jai Syn, M.S.,	1995
Cristopher Olenec, M.S.	1995
Lora Tucker-Garcia, M.S.	1995
Uri Ratner, M.S.	1996
Christina Stadler, M.S.	1996
Lora Kastrup, M.S.	1996
Marsha Yoder, M.S.	1997
Jasbir Kindra, M.S.	1997
Sharon Doering, M.S.	1997
Clara Smith, M.S.	1998
Ethan Buckley, M.S.	1999
Scott Rosenblum, M.S.	2000
Nancy Sullivan, M.S.	2000
Jeffery Black, M.S.	2000

Trainees:

Postdoctoral Fellows:

Deepika Paul	Mario Venegas
Samar Maklouf	Thomas Rohr
Jitendra Verma	Michio Tanaka
Shiva Motameni	Stewart Nelson
Lyman Davis	Ramendra Pandey
Bernard Kubak	Donna Bishop

Residents in Rheumatology:

Mike Repice	Albert Iammartino
Charlotte Harris	William Liu
Cynthia Gustafson	

Residents in Otolaryngology:

Deyan Popovic	Susan Lyon

Medical Students:

James Carr	Robert Sobut	Denise Mistro	Susan Roth
Thomas Lucke	Sarah Keesara	Ragu Thunga	Thomas Walsh
Thomas Henthorn	Paul Lyon	Martin Radvany	Ateet Shah
Tapubrata Ghosh	Annette Barns	James Misak	Ripal Ghandi
Roberta Gausas	Reeva Shulruf	Samir Taneja	
William Walsh	Kyle ver Steeg	Sylvester Black	

Biotechnology Program Students:

Winnie Pao	Cristina Stadler	Marcia Yoder
Ayano Takamoto	Christopher Olenec	Jasbir Kindra
Lourdes Bermejo	Jai Syn	Joseph Orlando
Uri Ratner	Nami Cho	Lora Kastrup
Sanjiv Gupta	Sharon Doering	Clara Smith
Ethan Buckley	Scott Rosenblum	Nancy Sullivan
Jeffrey Black		

Undergraduate Students:

Marlene Morrison	Loretta Liu	Jennifer Shaw
Daniel Fryxell	John Zachariah	Jason Roh
Michael Baumann	Denise Mistro	Andrew Hong
Ragu Thunga	Askok Kukadia	Kirsten Stadler
Martin Radvany	Gautham Reddy	SandyShaw
Andrew Radvany	Stephanie Wu	Katherine Chen
Daniel Roh	David Napochi	Thomas Kim

Students, Thesis, Present Position

Celia Kaye, M.D., Ph.D.
Cystine Reduction and Transport in Cystinotic and Normal Fibroblasts
Ph.D., Biochemistry, 1985
Head, Genetics, U. of Texas, San Antonio

Linda Hanson, M.S.
Characteristics of the Antigenic Reactivities of Rheumatoid Arthritic Synovial Fibroblasts
M.S., Clinical Pathology, 1976

Lorraine Gill, Ph.D.
Characterization of Reactivities of Anti-Cellular Sera with Tumor Cells in Vitro
Ph.D., Biochemistry, 1977
Research Scientist, New England Nuclear

Margaret Lu Steffes, M.S.
Delineation and Partial Characterization of an Associated Rhematoid Arthritic Reactive Antigen
M.S. Biochemsitry, 1977
Senior Manager, Abbott Labs

Tod B. Sloan, M.D., Ph.D.
A Study of Synovial Cell Antigens
Ph.D., Biochemsitry, 1978
Associate Professor, Dept. Anesthesiology, U. of Texas, San Antonio

John Jay Weiss, M.S., Ph.D.
Studies on the Platelet Derived Connective Tissue Activating Peptide
M.S., Clinical Pathology, 1979
Program Director in Allergy, Diagnostic Products Corp.

Lyman E. Davis, M.S., Ph.D.
Immunoassays for Fibronectin
M.S., Clinical Pathology, 1980
Senior Director, Takeda Abbott

Mark L. Pankow, M.S., Ph.D.
Immunochemical Staining of Cancer Tissues
M.S., Clinical Pathology, 1983
Director of R&D, Parke DeWatt Labs

Students, Thesis, Present Position - continued

Lyman E. Davis, M.S., Ph.D.
Specificities of Antibodies to a Carbodiimide and to the Amino-Terminus of a Platelet Mitogen
Ph.D., Tumor Cell Biology, 1984
Senior Director, Takeda Abbott

Ruth A. Entwistle, Ph.D.
A Kinetic Study of Fibronectin and the Clq Component of Complement Ph.D.,
Tumor Cell Biology, 1986
Research Associate, Washington U. School of Medicine

Mark L. Pankow, M.S., Ph.D.
Development of an Assay for Detection of Galactose Terminated Glycoprotiens in Biologic Fluids
Ph.D., Tumor Cell Biology, 1988
Director of R&D, Parke DeWitt Labs.

John Jay Weiss, M.S., Ph.D.
Studies of Complement Mediated Interactions Between Fibronectin and Immune Complexes
Ph.D., Tumor Cell Biology, 1989
Program Director in Allergy, Diagnostic Products Corp.

Michael A. Baumann, Ph.D.
Synthetic Peptides with Immune Complex Binding Activity
Ph.D., Tumor Cell Biology, 1990
Research Scientist, Abbott Labs.

Michael J. Shields, Ph.D.
Characterization and Use of Monoclonal and Polyclonal Antibodies
Directed Against C-Reactive Protein in the Fluid and Solid Phase
Detection of Altered Forms of C-Reactive Protein in Humans
Ph.D., Molecular Biology, 1991
Postdoctoral Fellow, National Institutes of Health

Students, Thesis, Present Position - continued

John Joseph Kresl, Ph.D., M.D.
Evaluation of Native Modified Human C-Reactive Protein Interconversion: Possible Role for Modified C-Reactive Proteins in Tumor Inhibition
Ph.D., Tumor Cell Biology, 1992, MD, 1993
Staff Physician, Radiation Oncology, St. Mary's Hospital, Phoenix,

Marilyn R. Brown, Ph.D.
Receptor-Ligand Interactions Between Serum Amyloid P Component
and Model Soluble Immune Complexes
Ph.D., Tumor Cell Biology, 1993
Research Scientist, Baxter Labs.

Winnie Pao, M.S.
Autoantibodies in Colon Cancer
M.S., Biotechnology Program, 1993
Research Associate, Division of Transplantation, NUMS

Katherine Worthington, Ph.D.
Design of Peptides Binding to Beta-2-microglobulin and Immunoglobulin G
Ph.D., Tumor Cell Biology, 1994
Research Analyst, Research Corp. Technologies

NaMi Cho, M.S.
Binding of IgG Aggregates to CBP2-Amino Link
M.S., Biotechnology Program, 1994
Postdoctoral Fellow, Boston University

Joseph Orlando, M.S.
CBP2 Binding of Aggregated-IgG
M.S., Biotechnology Program, 1994
Graduate Student, Dept. of Microbiology-Immunology, Wake Forest University, Bowman Gray School of Medicine

Sanjiv Gupta, M.S.
Detection of a Transferrin Isoform Associated with Alcohol Consumption
M.S., Biotechnology Program, 1994
Medical Student, University of Indiana

Students, Thesis, Present Position - continued

Jai Syn, M.S.
Specificities of Binding of Lectins to an Aromatic Carbohydrate Mimetic Library
M.S., Biotechnology Program, 1995
Research Associate, Abbott Labs.

Christopher Olenec, M.S.
Binding of Proteins to a Secondary Structure Limited Peptide Library
M.S. Biotechnology Program, 1995.
U.S. Commerce Dept. on FDA Regulations, Washington, D.C.

Lora Tucker-Garcia, M.S.
Carbohydrate Deficient Glycoproteins: Significance in Carbohydrate Deficient Glycoprotein Syndrome, Alcoholism, and Fetal Alcohol Syndrome
M.S., Biotechnology Program, 1996
Research Associate, Abbott Labs.

Uri Ratner
Characterization of Xenoreactive Antibodies Important in Transplant Rejection
M.S. Biotechnology program, 1996
Research Analyst, Venture One

Cristina Stadler
Complement Inhibition by Peptides in Hyperacute Rejection Reactions
M.S., Biotechnology Program, 1996
Division Manager, Baxter Labs.

Lora Kastrup
Study of Vaginal Fluid Oligosaccharides in UTIs
M.S., Biotechnology Program, 1996
Research Associate, Baxter Healthcare Corporation

Jasbir Kindra, M.S., LL.D.
Complement Inhibition Through the Use of Diaromatic Peptides to Allow Xenotransplantation
M.S., Biotechnology Program, 1997
Patent Attorney, Green Bay, WI

Students, Thesis, Present Position

Marcia Yoder, M.S.
Studies on Complement Inhibition by a Diaromatic Peptide, Tryptophan-Tyrosine
M.S., Biotechnology Program, 1997
Research Associate, Eli Lilly Co.

Sharon Doering, M.S.
Avian IgY antibodies - Use in Xenotransplantation
M.S., Biotechnology Program, 1997
Biotechnology Analyst, Madison Securities

Clara Smith, M.S.
Cross-Linked Avian IgY and Human IgG as Potential Inhibitors of Rejection in Xenotransplantation
M.S., Biotechnology Program, 1998
Research Scientist, Glaxo Welcome

Committee Service:

Research Committee, Medical and Dental Schools
Sigma XI Symposia
Medical Applicant Interview
Cancer Center Library
General Services Committee of Faculty Senate
Faculty Senate
Biochemistry Workshop
Departmental Outside Speaker, Equipment, Library
Graduate Affairs Committee
VA Research Development Committee
Executive Committee of the Biochemistry Program
Cancer Center Equipment
Cancer Focus
Medical Admissions
Tumor Cell Biology Program
Comprehenisve Examination
Pre-Thesis and Thesis Committees for 33 students
University Research Grants Committee
General Faculty Committee
Graduate Professional Education of the Physician
Task Force on the Future of the Medical Library
Microbiology Department Review Committee
Medical Senate Council
Medical Council
Medical Library Long-Range Planning Committee
Program Review of Microbiology-Immunology
Program Review of Physical Therapy Curriculum
Research Program Committee on Immunobiology
Intellectual Property Committee
Medical School Urology Chair Search Committee
Medical School Division Making Course Development Committee
Medical School Research Council
Biotechnology Program: Executive Committee, Admissions,
Advisory Board
Honors Program in Medical Education
Program Review Committee - Mol. Pharm. & Biochem.

Committee Service 1984 -
University:

General Faculty Committee, 1982-1985
Subcommittee on Benefits
Chair, GFC/Trustees Meeting, 1983, 1984
Intellectual Property Committee, 1989-1996
University Research Grants Committee, 1973 - 1976; 1995 -
Biotechnology Program:Executive Committee, Admissions, Advisory Board, 1992 -

Medical School:

Medical Senate Council, 1984-1988
General Profession Education of the Physician Committee
Chair, Subcommittee on Faculty Involvement, 1985-1986
Research Long-Range Planning in Immunobiology, 1985-1986
Chair, Research Program Committee on Immunobiology, 1985- 1990
Medical School Admissions, 1972 -
Honors Program in Medical Education, 1996 -

Departmental:

Appointments, Promotion, Tenure
Graduate Affairs
Course/Exam/Certificate - Chair
Promotions - Chair
Library
Recruitment - Chair

Teaching Service:

1. Medical, Biochemistry, laboratory section
   Subjects: Statistics, acid-base balance, nutrition, automated analyses, topics in immunology and autoimmune diseases

2. Medical, Biochemistry, lecture
   Topics: glycogen metabolism
   mucopolysaccharides, saccharide interconversions
   glycoproteins
   hexose monophosphate pathway
   post-ribosomal processing of proteins

3. Medical, biochemistry, lecture and independent study of immunology with students with proficiency in biochemistry

4. Medical, immunology, lectures on antibody structure
   and antibody - antigen interactions

5. Medical, basic oncology, lectures on biological membranes

6. Graduate, survey course in immunology

7. Graduate, lecture and seminar on biological membrane
   topics

8. Graduate, lectures in immunlology on antibody structure, antigenic determinants, antibody-antigen interactions, antibody functions

9. Graduate, survey courses in biochemistry,
   Topics: carbohydrate sturcture, analysis;
   glycoprotein and glycolipid stucture, functions and metabolism; lipopolysaccharide
   structure and synthesis; biological membranes; muscle structure
   protein structure
   protein - ligand binding

enzyme mechanisms
enzyme kinetics

10. Graduate, basic oncology, lectures on biologic membranes

11. Graduate, survey course in immunochemistry

12. Post-Graduate, lecture on inter-relationships of comple-
ment, fibrinolytic and kinin systems

LECTURES, MEDICAL BIOCHEMISTRY

1. Glycogen metabolism and regulation
2. Structural complementarily, amplification of metabolic response, disorders in glycogen metabolism
3. Galactose, glucuronic acid metabolism, mucopolysaccha-rides, saccharide interconversions, hexose monophosphate shunt
4. Post-ribosomal modification of proteins, protein polymorphisims and disease consequences
5. Fatty acid synthesis and degradation
6. Lipid structure and function
7. Phospholipid structure and function

BASIC ONCOLOGY:

1. Structural features of biologic membranes
2. Tumor cell membranes, tumor-associated antigens

GRADUATE BIOCHEMISTRY:

1. Stereochemistry of carbohydrates
2. Conformations of carbohydrates
3. Chemical reactivity and conformation
4. Methodology for structural determinations of carbohydrate sequences
5. Types and characteristics of complex carbohydrates
6. Methods applied to analysis of complex carbohydrates
7. Synthesis of complex carbohydrates
8. Functions of complex carbohydrates
9. Proteins - primary and secondary structure
10. Proteins - Tertiary and quaternary structure
11. Protein-protein and protein-ligand interactions
12. Proteins - structural predictions
13. Enzyme kinetics
14. Enzyme mechanisms
15. Enzymes - Types and regulation

16. Membrane structure and function
17. DNA and RNA structures
18. Principles that determine polynucleotide structure
19. Protein - polynucleotide interactions

LECTURES, DENTAL BIOCHEMISTRY

1. Glycogen metabolism and regulation of blood glucose
2. Structure and function of phospholipids, membrane structure
3. Fatty acid synthesis and degradation
4. Interrelationships and regulation of metabolic pathways

IMMUNOCHEMISTRY:

1. Heterogeneity of the antibody response; classes, subclasses, allo- and idiotypes of Igs

2. Structural features of Igs; discussion of homologies and deduction of structure from amino acid sequence data

3. Effector functions of the Igs

4. Three dimensional structure of Igs and quaternary interactions of domains

5. Antibody combining site constructs

6. Antibody combining site interactions with haptens; serologic specificities

7. Measurement, interpretation and quantitations of antibody-antigen interactions

8. Kinetic analyses of antibody-hapten interactions

9. Radio- and enzyme-immunoassays

10. Parameters of antigenicity and immunogenicity

CANCER PHARMACOLOGY:

1. Progression and selection of tumor cell populations; changes in cell surface composition and interactions with metastases

2. Tumor-associated antigens

RESIDENT AND STAFF LECTURES:

Otolaryngology: lectures on overview of tumor immunology

Rheumatology:

1. Synovial cell metabolism and antigen, genetic analysis of antigen expression

2. Protein Polymorphisms: types, effects on protein function, contribution to disease processes

Subjects taught in Medical Biochemistry Laboratory:

1. Principles and methods of automated analyses

2. Acid-base regulation and imbalances

3. Statistical methods and analyses of clinical data

4. Dietary calculations of protein, carbohydrate, lipid, caloric intake and nitrogen balance

5. Presentations, analysis, critique of primary clinical and basic research papers

Current Teaching:

Lectures in graduate biochemistry: Characterizations

of proteins, protein secondary, tertiary and quaternary structures, predictions of protein and peptide structures, binding site interactions of proteins with various ligands, structures of polynucleotides, chemistry, stereochemistry and conformations of carbohydrates, structural types of complex carbohydrates, complex carbohydrate biosynthesis, functions of complex carbohydrates.

Lectures in medical and dental biochemistry: on carbohydrate, lipid and phospholipid structure and function, glycogen metabolism and regulation of blood glucose, fatty acid synthesis and degradation, and integration and regulation of carbohydrate and lipid metabolism.

Graduate Thesis Studies

Abstract: Kundig, W., Kundig, F. Dodyk, Anderson, B. and Roseman, S., "Galactose-6-Phosphate Synthesis by a Phosphotransferase System," Fed. Proc., 24, 658, 1965.

Kundig, W., Kundig, F. Dodyk, Anderson, B. and Roseman, S., "Restoration of Transport of Glycosides in Escherichia coli by a Component of a Phosphotransferase System," J. Biol. Chem., 241, 3243-3245, 1966.

Simoni, R.D., Levinthal, M., Kundig, F.D., Kundig, W., Anderson, B., Hartman, P.E. and Roseman, S., "Genetic Evidence for the Role of a Bacterial Phosphotransferase System in Sugar Transport," Proc. Nat. Acad. Sci., 58, 1963-1970, 1967.

Abstract: Anderson, B., Kundig, W., Simoni, R. and Roseman, S., "Further Studies on Carbohydrate Permeases," Fed. Proc., 27, 643, 1968.

Anderson, B., Weigel, N., Kundig, W. and Roseman, S., "Purification and Properties of the Phospho-Carrier Protein Intermediate of the Carbohydrate Phosphotransferase System of Escherichia coli,", J. Biol. Chem., 246, 7023-7033, 1971.

Postdoctoral Studies

Etzler, M.E., Anderson, B., Beychok, S., Gruezo, F., Lloyd, K.O., Richardson, N.G. and Kabat, E.A., "Oligosaccharides Isolated after Hydrolysis of Hog Mucin Blood Group A+H Substance Previously Treated with the Blood Group A De-N-Acetylating Enzyme. Arch. Biochem. Biophys., 141, 588-601, 1970.

Feizi, T., Kabat, E.A., Vicari, G., Anderson, R. and Marsh, W.L., "The I Antigen Complex-Precursors in the A, B, Le^a I and Le^b Blood Group System, Hemagglutination Inhibition Studies," J. Exp. Med., 133, 39-52, 1971.

Feizi, T., Kabat, E.A., Vicari, G., Anderson, B. and Marsh, W.L., "The I Antigen Complex - Specificity Differences Among Anti-I Sera Revealed by Quantitative Precipitin Studies; Partial Structure of the I Determinant Specific for One Anti-I Serum," J. Immunol., 106, 15789-1592, 1971.

Anderson, B., Kabat, E.A., Beychok, S. and Gruezo, F., "Structures of Oligosaccharides Obtained by Mild Acid Hydrolysis of Human Ovarian Cyst Blood Group A Substance," Arch. Biochem. Biophys., 145, 489-504, 1971.

Anderson, B., Rovis, L. and Kabat, E.A., "A Study of Various Conditions of Alkaline Borohydride Degradation on Human and Hog Blood Group Substances and on Known Oligosaccharides" Arch. Biochem. Biophys., 148, 304-314, 1972.

Rovis, L., Anderson, B., Kabat, E.A., Gruezo, F. and Liao, J., "Heterogeneity of Carbohydrate Fragments Isolated from Human Blood Group H and Le^a Active Glycoproteins by Base-Borohydride Degradation," Biochemistry, 12, 1955-1961, 1973.

Rovis, L., Anderson, B., Kabat, E.A., Gruezo, F. and Liao, J., "Structures of Oligosaccharides Produced by Base-Borohydride Degradation of Human H, Le^b and Le^a Active Glycoproteins," Biochemistry, 12, 5340-5354, 1973.

Rovis, L., Anderson, B. and Kabat, E.A., "Immunochemical Studies on Blood Group A, B, H, Le^a and Le^b and Precursor I Substances," in Methodologie de la Structure et du

Metabolism des Glycoconjuges, 645-650, 1974.

Enzyme Kinetic Studies

Abstract: Anderson, R. and Czerlinski, G., "Enzyme Amplification for the Detection of Very Low Levels of Substrate Concentration," Biophysical Society, San Francisco, CA, Feb., 1986.

Abstract: Czerlinski, G.H. and Anderson, B., "Metabolic Amplification Systems," FASEB J., 2, A550, 1988.

Czerlinski, G.H., Anderson, B., Tow, J. and Reid, D.S., "Coupling of Redox Indicator Dyes into an Enzymatic Reaction Cycle," J. Biochem. Biophys. Methods, 15, 241-248, 1988.

Czerlinski, G., and Anderson, B., "Metabolic Amplification: Analysis of the Kinetic Detection of Low Substrate Levels". J. Theoretical Biology, 139, 187-200, 1989.

Connective Tissue Activating Protein

Castor, C.W., Ritchie, J.C., Williams, C.H., Scott, M.E., Whitney, S.L., Sloan, T.B. and Anderson, B., "Connective Tissue Activation. XIV. Composition and Actions of a Human Platelet Autacoid Mediator," Arth. Rheum., 22, 260-272, 1979.

Abstract: Weiss, J.J., Sloan, T.B., Castor, C.W. and Anderson, B., "Detection of Platelet-Derived CTAP-III in Biologic Specimens," Mid-West Immunology Conference, 1979.

Abstract: Myers, S., Castor, C.W. and Anderson, B., "Measurement of CTAP-III Levels by RIA in Normal and Rheumatoid Plasma," Clin. Res., 27, 646A, 1979.

Sloan, T.B., Weiss, J.J., Anderson, B., Ritchie, J.C., Whitney, S.L. and Castor, C.W., "Connective Tissue Activation. XVI. Detection of a Human Platelet Derived Connective Tissue Activating Peptide (CTAP-III) in Human Sera and Plasma and in Synovial Fluids and Tissues," Proc. Soc. Exp. Biol. Med., 164, 267-274, 1980.

Weiss, J.J., Myers, S., Castor, C.W., Donakowski, C. and Anderson, B., "Radioimmunoassay of a Human Platelet Derived Connective Tissue Activating Peptide (CTAP-III) and Specificities of Anti-CTAP-III Sera," Clin. Chim. Acta.,108, 425-433, 1980.

Abstract: Davis, L.E., Castor, C.W., Tinney, F.J. and Anderson, B., "Preparation and Characterization of Antisera to the Amino-Terminal Tetrapeptide of the Platelet Derived Connective Tissue Activation Peptide (CTAP-III), Fed. Proc., 42, 1298, 1983.

Abstract: Davis, L.E., Castor, C.W., Tinney, F.J. and Anderson, B., "Preparation of a Synthetic Tetrapeptide Immunogen of a Platelet Derived Connective Tissue Activating Peptide," Fed. Proc., 43, 1874, 1983.

Abstract: Davis, L.E., Castor, C.W., Tinney, F.J. and Anderson, B., "Cross-Reactivity of Anti-Synthetic Tetrapeptide Sera to a Connective Tissue Mitogen," Mid-West Immunology Meetings, Nov., 1983.

Davis, L.E., Castor, C.W., Tinney, F.J. and Anderson, B., "Characterization of Antibodies Specific to the Amino-

Terminal Tetrapeptide Sequence of a Platelet Derived Connective Tissue Activating Peptide." Biochem. Int., 10, 395-405, 1985.

Connective Tissue Activating Protein - continued

Erickson, J., Davis, L.E., Castor, C.W., Walz, D.A. and Anderson, B.E., "Structural Comparison of Connective Tissue Activating Peptide-III and Beta-Thromboglobulin by Circular Dichroism and Structural Prediction Methods," FASEB J., 2, A1336, 1988.

Erickson, J., Davis, L.E., Castor, C.W., Walz, D.A. and Anderson, B.E., "A Possible Receptor Binding Function for the N-Terminus of Connective Tissue Activating Peptide-III," Biochemistry, 29, 4077-4080, 1990.

I Blood Group Antigens

Dube, V.E. and Anderson, B., "Expressions of I Antigen and Anti-I Cold Agglutinins in Sera of Patients with Possible Precancerous Breast Lesions," in Carcino-Embryonic Proteins, Chemistry, Biology, Clinical Applications, Vol. ii, F.-G. Lehman, Ed., Elsevier, North Holland Biomedical Press, Amsterdam, New York, Oxford, pp. 905-908, 1979.

Abstract: Dube, V.E. and Anderson, B., "Purification of I-Antigenic Glycoprotein from Ovarian Cyst Fluid", American Chemical Society Meetings, Chicago, August, 1980.

Abstract: Anderson, B., Dube, V.E., Iwaki, Y. and Terasaki, P., "Anti-I Active Cold Agglutinins and B-Cell Lymphocytotoxins in Breast Cancer Sera,"Int.Soc. Oncodevel. Biol. Med., Sept., 1981.

Abstract: Dube, V.E., Rohr, T. and Anderson, B., "Enzyme Immunoassay for I Antigens," Tri-State Blood Bank Meetings, May, 1982.

Abstract: Dube, V.E., Tanaka, M., Chmiel, J. and Anderson, B., "Influence of ABO Group Secretor Status and Sex of Normal Individuals on Cold Hemagglutinins," Tri-State Blood Bank Meetings, May 1982.

Abstract: Tanaka, M., Anderson, B. and Dube, V.E., "A New I-Active Sequence in Oligosaccharides of Ovarian Cyst Glycoprotein," Society for Complex Carbohydrates, Sept., 1982.

Dube, V.E., Kallio, P., Tanaka, M. and Anderson, B., "Structures and I-Blood Group Activities of Oligosaccharides Isolated from an Ovarian Cyst Glycoprotein," Biochem. Biophys. Acta., 798, 283-290, 1984.

Dube, V.E., Haid, M., Chmiel, J. and Anderson, B., "Serum Anti-I Cold Agglutinin Activities and IgM levels in Sera of Breast Carcinoma," Breast Cancer Res. Treatment 4, 105-108, 1984.

Dube, V.E., Tanaka, M., Chmiel, J. and Anderson, B., "Effect of ABO Group, Secretor Status and Sex on Cold Agglutinins in Normal Adults," Vox. Sang., 46, 75-79, 1984.

Dube, V.E., Kallio, P., Tanaka, M. and Anderson, B., "Characterization of Two Anti-I Specificities by a Solid Phase Enzyme Immunoassay," XII International Carbohydrate Symposium, Utrecht, July, 1985.

Fibronectin Studies

Abstract: Schmid, F.R., Wood, G.W. and Anderson, B., "Plasma Fibronectin in Cryoprecipitates; Possible Association with Immunoglobulins and/or Clq." Clin. Res., 27, 694A, 1979.

Iammartino., A., Schmid, F.R., Donakowski, C. and Anderson B. "Fibronectin is a Component of Serum Cryoglobulins and Synovial Fluid Cryoproteins - Possible Association with Immunoglobulins," Arth. Rheum., 23, 694, 1980.

Wood, G.W., Rucker, M., Davis, J.W., Entwistle, R. and Anderson, B., "Interaction of Plasma Fibronectin with Selected Cryoglobulins," Clin. Exp. Immunol., 40, 358-364, 1980.

Abstract: Glasser, T., Cohen, I., Potter, E.V., Entwistle, R., Davis, L., Chediak, J. and Anderson, B., "Fibronectin in von Willebrand's Disease and Thrombasthenia - Role in Platelet Aggregation," Fed. Proc., 39, 839, 1980.

Anderson, B., Rucker, M., Entwistle, R., Schmid, F.R. and Wood, G.W., "Plasma Fibronectin is a Component of Cryoglobulins from Patients with Connective Tissue and other Diseases," Ann. Rheum. Dis., 40, 50-54, 1981.

Cohen, I., Potter, E.V., Glasser, T., Entwistle, R., Davis, L., Chediak, J. and Anderson, B., "Fibronectin in von Willebrandt's Disease and Thrombasthenia, Role in Platelet Aggregation," J. Lab. Clin. Med., 97, 134-140, 1981.

Abstract: Harris, C., Roth S.A., Schmid, F.R. and Anderson, B., "Binding of Fibronectin to Clq; Inhibition of Binding by Aggregated IgG," Clin. Res., 29, 782A, 1981.

Anderson, R., Entwistle, R., Puyat, L., Davis, L.E. and Schmid, F.R., "Fibronectin Associated with Clq in a Clq Isolation Procedure," Immunol. Comm., 10, 687-696, 1981.

Abstract: Anderson, B., Entwistle, R., Harris, C., Roth,

S. and Schmid, F.R., "Binding of Fibronectin to Clq and Inhibition of Binding by Aggregated IgG", Fed. Proc., 41, 847, 1982.

Abstract: Harris, C.A., Entwistle, R., Schmid, F.R. and Anderson, B., "Binding Interactions of Fibronectin and Aggregated IgG to Solid-Phase Clq". Arth. Rheum., 25, 875, 1982.

Fibronectin Studies - continued

Harris, C., Roth, S., Schmid, F.R. and Anderson, B., "Binding of Fibronectin to Clq; Inhibition of Binding by Aggregated IgG," Immunol. Comm., 10, 601-609, 1981.

Steffes, M.L., Iammartino, A.J., Schmid, F.R., Castor, C.W., Davis, L.E., Entwistle, R. and Anderson, B., "Fibronectin in Rheumatoid Arthritic (RA) and Non-RA Synovial Fluids and Synovial Fluid Cryoproteins," Ann. Clin. Lab. Sci., 12, 178-185, 1982.

Abstract: Entwistle, R.,Liu, W., Schmid, F.R., Ulrich, J.T. and Anderson, B., "Use of Peroxidase - Anti-Peroxidase (PAP) Complexes in a Solid-Phase Clq (SP-Clq) Immune Complex Assay," Fed. Proc., 42, 932, 1983.

Abstract: Entwistle, R. Schmid, F.R. and Anderson, B., "Studies on the Interaction of Fibronectin with Clq", Mid-West Immunology Meetings, Nov., 1983.

Abstract: Entwistle, R.A., Kang, A. and Anderson, B., "Multiple Binding Equilibria for Fibronectin and Low Concentration Solid Phase Clq", Fed. Proc., 44, 1076, 1985.

Abstract: Gustafson, C., Weiss, J.J., Schmid, F.R., Entiwstle, R.A., Kang, A. and Anderson, B., "Solid Phase-Immune Complex (SP-IC) Binding of Clq, and Fibronectin (FN) Binding to SP-Clq," Arth. Rheum., 28, S58, 1985.

Abstract: Weiss, J.J., Gustafson, C., Schmid, F.R. and Anderson, B., "Fibronectin Interaction with Clq Bound to Solid Phase Immune Complexes," Fed. Proc., 45, 263, 1986.

Abstract: Weiss, J.J., Gustafson C., Schmid, F.R. and Anderson, B., "Fibronectin Interaction with Clq Bound to Solid Phase Immune Complexes," Arth. Rheum., 29, S73, 1986.

Entwistle, R.E., Kang, A., Schmid, F.R. and Anderson, B., "Kline-tics and Stoichiometry of the Binding of Fibronectin to Solid Phase Clq." in review, JBC.

Anderson, B., Entwistle, R.A., Weiss, J.J. and Schmid, F.R., "Fibronectin Interaction with Complement Proteins - Characteristics of the Binding Interactions and Potential Biologic Significance," in Fibronectin in Health and Disease, Carsons, S.E., ed., CRC Press, Inc., Boca Raton, p. 68-88, 1989.

Protein Structure and Binding Studies

Abstract: Baumann, M.A. and Anderson, B.E., "Detection of Carbohydrate Binding Motifs in Proteins," First Int. Protein Symp., San Diego, CA, August, 1987.

Abstract: Baumann, M.A. and Anderson, B.E., "The Prediction of Carbohydrate Binding Motifs on Proteins," Midwest Immunology Symposium, Chicago, IL Nov., 1987.

Abstract: Radvany, M.G., Davis, L.E. and Anderson, B.E., "STRUCTURE - A Pascal Package for the Analysis of Amino Acid Sequences on IBM-PC Compatible Computers," Midwest Immunology Symposium, Chicago, IL, Nov., 1987.

Abstract: Baumann, M.A. and Anderson, B.E., "Detection of Carbohydrate Binding Motifs in Proteins," AAAS Annual Meeting, Boston, MA, Feb., 1988.

Abstract: Radvany, M., Davis, L.E. and Anderson, B.E., "STRUCTURE - A Pascal Package for Analysis of Protein Structural Characteristics from Amino Acid Sequences," FASEB J., 2, A1766, 1988.

Baumann, M. and Anderson, B.E., "A Method for Identifying a Proposed Carbohydrate-Binding Motif of Proteins," Glycobiology, 1, 537-542, 1991.

Baumann, M.A. and Anderson, B.E., "An Immune Complex Selective Affinity Matrix Utilizing a Synthetic Peptide," J. Biol. Chem., 265, 18414-18422, 1990.

Baumann, M. and Anderson, B., "Selective Immune Complex

Removal from Human Serum Simples Using an Affinity Matrix," Submitted to Arth. Rheum.

Anderson, B., Baumann, M. and Potempa, L., "A Clq Peptide and a Modified Form of C-Reactive Protein (mCRP) that Bind Immune Complexes," J. Cellular Biochem., 15G, 170, 1991.

Baumann, M. and Anderson, B., "An Immune Complex Binding Peptide Based on an α-Helical Segment of the Complement Protein Clq.," FASEB J., 5, A733, 1991.

Protein Structure and Binding Studies - continued

Radvany, M.G., Davis, L.E. and Anderson, B. "STRUCTURE - A Pascal Package for Analysis of Amino Acid Sequences on IBM-PC Compatible Computers", Methods in Mol. & Cell. Biol., 2, 154-160, 1991.

Abstract: Anderson, B., "Design of Peptides With Binding Affinities To Proteins of Interest," International Society of Blood Purification, October 9, 1992, Louisville, KY.

Abstract: Anderson, B., "Design of Peptides with Binding Affinities to Proteins of Interest." Int. Soc. Blood Purification, Louisville, Oct., 1992.

Abstract: Worthington, L.F., Nevens, J.R., Clark, C.R. and Anderson, B.E.," A Synthetic Peptide that Binds Immune Complexes Selectively versus Monomeric IgG," Am. Peptide Symposium, Edmonton, June, 1993.

Abstract: Nevens, J.R., Worthington, K.F., Anderson, B.E. and Clark, C.R., "An Immobilized Synthetic Peptide for the Affinity Purification of Immune Complex," Am. Peptide Symposium, Edmonton, June, 1993.

Abstract: Worthington, K. and Anderson, B.E., "Characteristics of the Binding of a Peptide Derived from Clq to IgG", Am. Soc. Biochem. & Mol. Biol., May, 1995; FASEB J., 9, A1470, 1995.

Abstract: Fryer, J., Blondin, B., Stadler, C., Ratner, U., Ivanic, D., Buckingham, F., Abecassis, M., Kaufman, D., Stuart, F. and Anderson, B., "Complement Inhibition of Human Serum to Pig Endothelial Cells by a Peptide Derived from Clq," Am. Soc. Transplant Surg., May, 1996.

Abstract: Fryer, J., Blondin, B., Stadler, C., Ratner, U., Stuart, F. and Anderson, B., "Prolongation of Guinea Pig Heart to Rat Transplants by Complement Inhibitory Peptides," Int. Soc. Transplant Surg., May, 1996.

Rheumatoid Arthritis (RA-1) Parvovirus Studies

Abstract: Smith, C., Stierle, G., Dumonde, D., Godzeski, C., Simpson, R. and Anderson, B., "Antigenic Similarity of Parvovirus Isolates from Rheumatoid Patients in the U.S. and London, N.E. Regional American Rheumatism Association meetings, Nov., 1983.

Abstract: Smith, C., Stierle, G., Dumonde, D., Simpson, R., Godzeski, C. and Anderson, B., "Antigenic Similarity of Parvovirus Isolates from Rheumatoid Patients in the U.S. and London," Arth. Rheum., 27, S70, 1984.

Abstract: Smith, C., Craig, R. and Anderson, B., "Detection of Parvovirus Antigen in Cultured Rheumatoid Synovial Cells," Arth. Rheum., 29, S47, 1986.

Abstract: Bishop, D., Lovell, L., Davis, L., Smith, C. and Anderson, B., "Virus-Like Particles in Tissues of Mice Injected with RA-1 Parvovirus Preparations," Fed. Proc., 46, 1513, 1987.

Abstract: Lenci, M.M., Smith, C. and Anderson, B., "Reactivity of Human Synovial Cells with Antiserum to Parvovirus RA-1," Arth. Rheum., 30, 5114, 1987.

Bishop, D., Horoupian, D., Janis, R., Simpson, R., Anderson, B. and Smith, C., "Pathology and Tissue Localization of Virus Particles in Newborn and Adult Mice Following Infection with the Human Parovirus RA-1", Submitted to Lab. Invest.

Synovial Cells, Tissues and Fluids

Abstract: Anderson, B., Martincic, R., Jameson, A., Hanson, L. and Steffes, M., "Antigenic Reactivities of Anti-Rheumatoid Arthritic (RA) Synovial Fibroblast Sera," Fed. Proc., 35, 1976.

Abstract: Steffes, M.L., Jameson, A., Martincic, R.R., Hanson, L., Schmid, F.R. and Castor, C.W., "Characteristics of an Antigen Reactivity in Synovial Fluids and its Association with Rheumatoid Arthritis," Fed. Proc., 36, 1064, 1977.

Abstract: Jameson, A., Steffes, M.L., Martincic, R.R., Hanson, L., Schmid, F.R., Castor, C.W. and Anderson, B. "Characteristics of an Antigen Reactivity in Synovial Fluids and Its Association with Rheumatoid Arthritis," Fed. Proc., 36, 1064, 1977.

Sloan, T.B., Martincic, R.R. and Anderson, B., "Synovial Cell Antigens. Production of Heterologous Anti-Human Synovial Cell Sera and General Reactivities of the Antisera," Exp. Cell. Biol., 49, 20-33, 1981.

Sloan, T.B., Martincic, R.R. and Anderson, R., "Differences of Antigen Composition of Rheumatoid Arthritic (RA) and Non-RA Derived Tissue Cultured Synovial Cells as Detected by Monkey Anti-RA Synovial Cell Sera," J. Rheumatol. 8, 204-213, 1981.

Sloan, T.B., Martincic, R.R. and Anderson, B., "Synovial Cell Antigens - Differences of Antigen Compositions Between Rheumatoid Arthritic (RA) and Non-RA Derived Synovial Cells Detected with Anti-Synovial Cell Sera," Exp. Cell Biol., 49, 195-206, 1981.

Steffes, M.L., Iammartino, A.J., Schmid, F.R., Castor, C.W., Davis, L.E., Entwistle, R. and Anderson, B., "Fibronectin in Rheumatoid Arthritic (RA) and Non-RA Synovial Fluids and Synovial Fluid Cryoproteins," Ann. Clin. Lab. Sci., 12, 178-185, 1982.

Carbohydrate Sequence Epitopes and Anti-Carbohydrate Specificities

Anderas, P., Paul, D.P., Tomita, J.T. and Anderson, B., "Preparation and Specificities of Antisera to B1-4 Linked N-Acetyl-D-Glucosamine Oligosaccharides," Mol. Immunol., 16, 341-345, 1979.

Abstract: Rohr, T., Tribby, I., Dube, V.E. and Anderson, B., "Production of Mouse Monoclonal Antibodies to Blood Group Active Oligosaccharides," Fed. Proc., 42, 431, 1983.

Abstract: Lee, Y.C., Mahklouf, S.E., Entwistle, R. and Anderson, B., "Characterization of Antibody Reactivities to Galactose Cluster Ligands," Fed. Proc., 42, 933, 1983.

Abstract: Makhlouf, S.E., Davis, L.E. and Anderson, B., "Specificities of Antisera to (GlcNβ1β4)n oligosaccharide Sequences," Fed. Proc., 42, 933, 1983.

Abstract: Rohr, T., Tribby, I., Dube, V.E. and Anderson, B., "Mouse Monoclonal Antibodies to Blood Group Active Oligosaccharides Isolated from Human Breast Milk," Fed. Proc., 42, 2102, 1983.

Abstract: Rohr, T., Tribby, I., Dube, V.E. and Anderson, B., "Monoclonal Antibody Specificities to the N2-oligosaccharide," Soc. Complex Carbohydrates, Oct., 1983.

Abstract: Mahklouf, S., Davis, L.E. and Anderson, B., "Specificity and Binding Site Size of Anti-(GlcNAc)n Antibodies," Soc. Complex Carbohydrates, Oct., 1983.

Abstract: Mahklouf, S., Lee, Y.C., Entwistle, R. and Anderson, B., "Antibodies Reactive with Branched Galactosyl-Residues," Mid-West Immunology Meetings, Nov., 1983.

Abstract: Roa, R.B., Baumann, M., Davis, L.E., Nilsson, L., Dahmen, J. and Anderson, B., "Monoclonal Antibody

Specificities to the Blood group P_1 and P^k Carbohydrate Sequences," Fed. Proc., 45, 720, 1986.

Carbohydrate Sequence Epitopes and Anti-Carbohydrate Specificities -continued

Mahklouf, S.E., Davis, L.E., Paul, D. and Anderson, B., "Immunochemical Characterization of Antisera Reactivities to N-Acetyl-D-Glucosamine Oligosaccharides of β1-4 Glycoside Linkage,"Glycoconj. J., 3, 351-362, 1986.

Abstract: Venegas, M., Schaeffer, A., Navas, E. and Anderson, B., "Detection and Quantitation of Blood Group Antigens in Human Buccal and Vaginal Mucous Glycoproteins," FASEB J., 5, A458, 1991.

Baumann, M.A. and Anderson, B., "A Proposed Carbohydrate Binding Motif in Proteins," Glycobiol., 1, 537-542, 1992.

Tumor-Associated Immunoglobulins

Popovic, D., Gill, L., Sisson, G., Applebaum, E. and Anderson, B., "Detection and Localization of Tumor-Associated Immune Components of Head and Neck Squamous Cell Carcinomas," Trans. Am. Acad. Opth. Otol., 82, 119-130, 1976.

Koneval, T., Applebaum, E., Popovic, D., Gill, L., Sisson, G., Wood, G.W. and Anderson, B., "Demonstration of the Presence of Tumor and Marginal Tissue Associated Immunoglobulin of Squamous Cell Carcinomas of the Head and Neck," J. Natl. Cancer Inst., 59, 1089-1097, 1977.

Abstract: Gill, L. and Anderson, B., "Characterization of the Reaction of Anti-Tumor Cell Antibody with Tumor Cells in Vitro," Fed. Proc., 36, 1255, 1977.

Abstract: Pankow, M.L., Davis, L.E. and Anderson, B., "Utilization of Dextran and Post-Primary Antibody Fixation in the Immunoperoxidase Staining of Immunoglobulin Associated with Squamous Carcinoma of the Head and Neck," Fed. Proc., 42, 932, 1983.

Abstract: Pankow, M., Davis, L.E. and Anderson, B. "Immunocytochemical Localization of Immunoglobulin in Squamous Carcinoma Tissues," Mid-West Immunology Meetings, November, 1983.

Abstract: Pankow, M.L., Davis, L.E., Becker, S.P., Ossoff, R.H. and Anderson, B., "Use of Dextran and Post-Primary Antibody Fixation in Immunoperoxidase Staining of Fresh Frozen Tissue -Detection of Immunoglobulin Associated with Squamous Carcinomas of the Head and Neck," J. Histochem. Cytochem., 32, 771-779, 1984.

Abstract: Davis, L.E., Reddy, G. and Anderson, B., "Quantitation and Antibody Specificities of Immunoglobulins (Ig) Associated with Squamous Carcinoma of the Head and Neck using Enzyme Amplification Immunoassay (EAI)," Fed. Proc., 45, 718, 1986.

Anderson, B., Davis, L.E. and Venegas, M., "Tumor-Associated Blood Group Antigen Expressions and Immunoglobulins Associated with Tumors," The Molecular Immunology of Complex Carbohydrates, Advances in Experimental Medicine and Biology, Vol. 228, A. Wu, Editor,

Plenum Press, New York, 1986, pp. 601-656.

Tumor Antigens and Epitopes

Anderson, B., Jameson, A., Hirata, A.A., Safford, J.S. and Tomita, J.T., "Carcinoembryonic Antigen - Identification of a Tri-N-Acetylchitotriosyl Type Structure as an Immunodeterminant Group", Immunochemistry, 12, 577-580, 1975.

Paul, D., Flouret, G., Tomita, J.T., Ranney, K., Schenck, J. and Anderson, B., "Preparation and Specificities of Antisera to the Amino-Terminal Sequence of the Carcinoembryonic Antigen," Cancer Res., 41, 2315-2321, 1981.

Abstract: Davis, L.E., Pankow, M.L., Sobut, R., Keesara, S. and Anderson, B., "Blood Group Antigen Expression by Normal and Squamous Carcinoma Epithelial," Fed. Proc., 43, 1751, 1984.

Abstract: Anderson, B., Davis, L.E., Pankow, M.L., Mahklouf, S., Brown, J.C. and Patel, R., "Blood Group Antigen Expression by Normal and Squamous Carcinoma Epithelia; and Monoclonal Antibodies to BDGal-4BDGlcNAc1-R Sequence which Distinguish Between N- and O-Linked Glycoproteins," XII International Carbohydrate Symposium, Utrecht, July, 1984.

Abstract: Davis, L.E., Barnes, A., Sobut, R. and Anderson, B., "Detection of Blood Group Antigens and Immunoglobulin in Squamous Carcinoma Tissues," Soc. Complex Carbohydrates, Oct., 1984.

Abstract: Davis, L.E., Lyons, P., Barnes, A. and Anderson, B., "Expression of Blood Group Antigens and Immunoglobulins by Head and Neck Squamous Carcinoma Tissues," J. Cellular Biochem., suppl. 9A, 40, 1985.

Abstract: Davis, L.E., Venegas, M., Lovell, L. and Anderson, B., "Head and Neck Squamous Carcinoma Tissue Expression of Blood Group Antigens and Immunoglobulins," VIII International Symposium on Glycoconjugates, Houston, TX, Sept., 1985.

Abstract: Venegas, M., Lovell, L., Davis, L.E., Anderson,

B., Wilbanks, T., Hass, G.M., Manderino, G. and Rittenhouse, H., "Purification of Ascitic Fluid Mucins Containing Tumor-Associated Oligosaccharide Sequence Epitopes," VIII International Symposium on Glycoconjugates, Houston TX, Sept., 1985.

Tumor Antigens and Epitopes - continued

Abstract: Anderson, B., Davis, L.E. and Venegas, M., "Tumor-Associated Blood Group Antigen Expressions and Immunoglobulins Associated with Tumors," Molecular Immunology of Complex Carbohydrates, College Station, Texas, Sept., 1985.

Abstract: Venegas, M., Lovell, L., Davis, L.E., Anderson, B., Wilbanks, T., Hass, G.M., Manderino, G. and Rittenhouse, H., "Isolation, Purification and Immunochemical Studies of Tumor-Associated Antigen Markers of Ascitic Fluid Glycoproteins," Royal Society of Chemistry-Carbohydrate Group Meeting, Sheffield, England, U.K., April, 1986.

Abstract: Venegas, M., Lovell, L., Davis, L.E., Anderson, B., Wilbanks, T., Hass, G.M., Manderino, G. and Rittenhouse, H., "Purification of Ascitic Fluid Glycoproteins Containing Certain Tumor-Associated Antigen Markers," Fed. Proc., 45, 984, 1986.

Abstract: Anderson, B., Slota, J., Kundu, S., Patrick, J., Manderino, G., Rittenhouse, H. and Tomita, J., "Characterization of Monoclonal Antibodies to Paragloboside (PG) and Sialosyl-PG (2,6-SPG), and an Improved Chromatogram Binding Assay for Rapidly Identifying Antibodies to Tumor Antigens," J. Cellular Biochem., 157, 1987.

Venegas, M., Shaw, S., Lovell, L., Davis, L.E., Anderson, B., Wilbanks, T., Hass, K., Manderino, G. and Rittenhouse, H., "Purification and Immunochemical Characterization of Ascitic Fluid Glycoproteins Containing Certain Tumor-Associated and Blood Group Antigen Markers," Glycoconj. J., 6, 511-524, 1989.

Anderson, B. E. and Davis, L. E.,"Method of Detecting Cancer'" US Patent - 5376531. December 27, 1994. Official Gazette of the US Patent and Trademark Office Patents 1169

(4 Dec. 27). 1994.2420.

Serum Amyloid P-Component (SAP) Studies

Abstract: Kubak, R., Potempa, L.A., Mahklouf, S., Venegas, M., Gewurz, H. and Anderson, B., "Serum Amyloid P-Component Calcium-Dependent Binding to Glycoproteins, Glycoconjugates and Yeast Extracts," Soc. Complex Carbohydrates, Oct., 1984.

Abstract: Kubak, R., Potempa, L.A., Mahklouf, S., Venegas, M., Anderson, B. and Gewurz, H., "Mannose and Anionic Polysaccharides as Ligands for the Serum Amyloid P Component," Fed. Proc., 44, 1189, 1985.

Abstract: Venegas, M., Kubak, B.M., Potempa, L.A., Gewurz, A., Anderson, B. and Gewurz, H., "Binding of Serum Amyloid P-Component (SAP) to Mannans and Glycoproteins," XXXIV Colloquium on Protides of the Biological Fluids, Brussels, Belgium, May, 1986.

Kubak, B.M., Potempa, L.A., Gewurz, A., Slodki, M.E., Venegas, M., Anderson, B. and Gewurz, H., "Binding of Serum Amyloid P-Component (SAP) to soluble Saccharomyces cerevisiae Zymosan Extract, and Yeast Mannans and Phosphomannans," in Protides of Biological Fluids (H. Peters, ed.) 34, 391-395, 1986.

Kubak, B.M., Potempa, L.A., Anderson, B., Makhlouf, S., Venegas, M., Gewurz, H. and Gewurz, A.T., "Evidence that Serum Amyloid P Component Binds to Mannose Terminated Sequences of Polysaccharides and Glycoproteins," Mol. Immunol., 25, 851-858, 1988.

Abstract: Brown, M.R. and Anderson, B., "Human Serum Amyloid P Component (SAP) Exhibits Selective Binding of Heat or Alkali Aggregated versus Monomeric Immunoglobulin G, "FASEB J., 5, A1636, 1991.

Brown, M.R., and Anderson, B.E., "Receptor-Ligand Interactions Between Serum Amyloid P Component and Model Soluble Immune Complexes", J. Immunology, 151, 2087-2095, 1993.

C-Reactive Protein (CRP) Studies

Abstract: Gewurz, H., Siegel, J.N., Zeller, J.M., Landay, A.L., Chudwin, D., Fiedel, R.A., Mold, C., Anderson, B. and Potempa, L.A., "Ligands and Biological Reactivities of C-Reactive Protein (CRP) and Serum Amyloid P-Component (SAP)," XXXIV Colloquium on Protides of the Biological Fluids, Brussels, Belgium, May, 1986.

Abstract: Potempa, L.A. and Anderson, B., "Selective Adsorption of Immunoglobulin G on Affinity Matraces Containing a Modified Form of Human C-Reactive Protein," Int. Congress on Membranes and Membrane Processes, Chicago, August, 1990.

Abstract: Potempa, L.A., Motie, M., Klein, E., Anderson, B. and Baurmeister, U., "Conjugation of Modified Forms of C-Reactive Protein to Affinity Membranes for Extracorporeal Adsorption," Eurbiomat Workshop on Biologically Modified Biomaterial Surfaces, Antalya, Turkey, June, 1991.

Abstract: Potempa, L.A., Motie, M., Klein, E. and Anderson, B., "Affinity Membranes for the Removal of Immune Complexes," Int. Soc. Artificial Organs, Montreal, August, 1991.

Abstract: Kresl, J., Potempa, L. and Anderson, B., "Irreversible Conversion of Native Oligomeric to Modified Form(s) of Human C-Reactive Protein", FASEB J., 5, A633, 1991.

Abstract: Shields, M.J. and Anderson B., "An Enzyme-Linked Immunosorbent Assay (ELISA) for a Modified Form of Human C-Reactive Protein," FASEB J., 5, A633, 1991.

Abstract: Anderson, B., Siegel, J.N., Clark, C.R., Hines, K.K., Potempa, L.A., Gewurz, H. and Shields, M., "Quantitation and Conformational Changes of Human C-Reactive Protein (CRP) and a Modified Form (M-CRP) Determined by Enzyme-Linked Immunosorbent (ELISA) and Enzyme-Linked Immunoflow (ELIFA) Assays," FASEB J., 5, A622, 1991.

Abstract: Kresl, J.J. and Anderson, B., "Denaturation/Dissociation and Renaturation/Reassociation of Human C-Reactive Protein (CRP): Irreversible Conversion, "Clin. Res., 39, 462A, 1991.

C-Reactive Protein (CRP) Studies - continued

Abstract: Potempa, L.A., Motie, M., Anderson, B., Klein, E. and Baurmeister, U., "Conjugation of Modified Forms of C-Reactive Protein to Affinity Membranes for Extracorporeal Adsorption," Eurobiomat Workshop on Biologically Modified Biomaterial Surfaces, Antalya, Turkey, June, 1991.

Shields, M.J., Siegel, J.N., Clark, C.R., Hines, K.K., Potempa, L.A., Gewurz, H. and Anderson, B., "An Appraisal of Polystyrene - (ELISA) and Nitrocellulose-based (ELIFA) Enzyme Immunoassay Systems Using Monoclonal Antibodies Reactive Toward Antigenically District Forms of Human C-Reactive Protein," J. Immunol. Methods, 141, 253-261, 1991.

Abstract: Potempa, L.A., Motie, M., Klein, E. and Anderson, B., "Affinity Membranes for Removal of Immune Complexes," Int. Soc. Artificial Organs, Montreal, August, 1991.

Abstract: Anderson, B., Baumann, M. and Potempa, L., "A Clq Peptide and a Modified Form of C-Reactive Protein (mCRP) that Bind Immune Complexes," J. Cellular Biochem., 15E, 170, 1991.

Potempa, L.A., Motie, M., Anderson, B., Klein, E., and Baurmeister, U. "Conjugation of a Modified Form of Human C-Reactive Protein to Affinity Membranes for Extracorporeal Adsorption," Clinical Materials, 11, 105-117, 1992.

Kresl, J.J., Potempa, L.A. and Anderson, B.E., "Conversion of Native Oligomeric to a Modified Monomeric Form of Human C-Reactive Protein," Int. J. Biochem & Cell Biol.,30, 1415 - 1426, 1998

Kresl, J.J., Potempa, L.A., Radosevich, J. and Anderson, B.E., "Inhibition of Tumor Growth and Metastases of a Breast Adenocarcinoma (EMT6) in Mice by a Modified Form of C-Reactive Protein," Tumor Biol., 20, 72 - 87, 1999.

Abstract: Potempa, L.A., Murphy, R., Radosevich, J.A., Anderson, B., Kresl, J.J. and Chan, B., "Biological activity and Clinical Safety of Human Modified C-Reactive Portein, a Active New Agent Against Cancer, Hong Kong Int. Cancer Conf.,m Oct., 1996.

Potempa, L. A. and Anderrson, B. E., "Binding of Immune Complexes by Modified Forms of C-reactive Protein'" US PATENT - 5593897, Jan. 14, 1997, Official Gazette of the US Patent & Trademark Office.

C-Reactive Protein (CRP) Studies - continued

Potempa,L. A., Kresl, J. J. and Anderson, B. E., "Methods of Imagining Cancer Cells Using Modified C-Rective Protein," US PATENT -5474904. December 12, 1995. Official Gazette of the US Patent & Traddemark Office 1181 (2 Dec. 12) 1005.1154.

Glycated-Hemoglobin Studies

Fujiwara, Y., Okamoto, H., Zanma, S., Kasai, Y., Chichibu, K., Matsuno, T., Niwa, M., Sugiura, M., Maruyama, S., Anderson, B., and Davis, L.E., "Immunoassay For Hemoglobin A_{1C} Measurement", RIA Study Meeting, November 14, 1992, Nagoya, Japan.

Davis, L.E., Jokinen, D., Turk, L., Radvany, M., Theophilos, A., Fitzsimons, E. and Anderson, B., "Immunoassays for Hemoglobin Alc Employing a Reductively Modified Antigen",

Davis, L. E. and Anderson, B. E.,"Immunoassay of Glycosylated Proteins Employing Antibody Directed to Reductively Glycosylated N-Terminal Amino Acids," US PATENT - 5484735. January 16, 1996. Official Gazette of the US patent & Trademark Office Patents 1182 (3 Jan. 16). 1996. 1854.

Bacterial Adhesion Studies

Abstract: Venegas, M., Schaeffer, A.J., Navas, E. and Anderson, B., "Detection and Quantitation of Blood Group Antigens in Human Buccal and Vaginal Mucous Glycoproteins," FASEB meeting, Atlanta, GA, April, FASEB J., 5, A458, 1991.

Abstract: Navas, E.L., Venegas, M.F., Duncan, J.L., Anderson, B.E., Chmiel, J.S. and Schaeffer, A.J., "Blood Group Antigen Expression by Buccal and Vaginal Cells and Mucins from Healthy Women," Am. Urological Assoc., Washingtron, D.C., May, 1992, J. Urology. 147, 394A, 1992.

Navas, E.L., Venegas, M.F., Duncan, J.L., Anderson, B.E., Chmiel, J.S. and Schaeffer, A.J. "Blood Group Antigen Expression on Vaginal and Buccal Epithelial Cells and Mucous in Secretor and Nonsecretor Women", J. Urology, 149, 1492-1498, 1993.

Abstract: Venegas, M., Gaffney, R., Navas, E., Duncan, J., Anderson, B. and Schaeffer, A., "Binding of Escherichia coli to Glycoconjugates from Buccal and Vaginal Mucous," Cambridge Healthtech Institute Meeting on Glycotechnology, San Francisco, May, 1993.

Abstract: Scaheffer, A.J., Navas, E.L., Venegas, M.F., Duncan, J.L., Anderson, B.E., Kanerva, C. and Chmiel, J.S., "Variation of Blood Group Antigen Expression on Epithelial Cells and Mucous from Women with and without History of Urinary Tract Infection," Am. Urological Assn. Meeting, San Antonio, May, 1993, J. Urology, 149, A778, 1993.

Navas, E.L., Venegas, M.F., Duncan, J.L., Anderson, B.E., Kanerva, C., Chmiel, J.S. and Schaeffer, A.J., "Blood Group Antigen Expression on Vaginal Cells and Mucous in Women with and without a History of Urinary Tract Infections," J. Urology., 152, 345-349, 1994.

Gaffney, R., Duncan, J.L., Anderson, B.E. and Schaeffer, A.J., "Effect of Lewis Blood Group Antigen Expression on Bacterial Adherence to COS-1 Cells," Infection and Immunity, 62, 3022-3026,1994.

Schaeffer, A.J., Navas, E.L., Venegas, M.F., Anderson, B.E., Kanerva, C., Chmiel, J.S. and Duncan, J.L., "Variation of Blood Group Antigen Expression on Vaginal Cells and Mucous in Secreter and Nonsecretor Women," J.

Urology, 152, 859-864, 1994.
Bacterial Adhesion Studies - continued

Abstract: Anderson, B., Venegas, M., Navas, E.L., Gaffney, R., Duncan, J. and Schaeffer, A., "Binding of Type 1 Piliated Escherichia coli to Vaginal Mucous," Glycobiology Meetings, Washington, D.C., February, 1994.

Abstract: Gaffney, R.A., Schaeffer, A.J., Anderson, B.E. and Duncan, J.L., "Effect of Lewis Blood Group Antigen Expression on Bacterial Adherence to COS-1 cells," Am. Urol. Assoc., Mtg., Feb., 1994.

Venegas, M.F., Navas, E.L., Gaffney, R.A., Duncan, J.L., Schaeffer, A.J. and Anderson, B.E. "Binding of Type 1 Piliated Escherichia coli to Vaginal Mucus," Infection and Immunity, 63, 416-422, 1995.

Gaffney, R.A., Venegas, M.F., Kanerva, C., Navas, E.L., Anderson, B.E., Duncan, J.L., and Schaeffer, A.J., "The Effect of Vaginal
Fluid on Adherence of Type 1 Piliated Escherichia coli to Epithelial Cells," J. Inf. Dis., 172, 1528-1535, 1995.

Abstract: Wright, E.T., Navas, E.L., Gaffney, R., Duncan, J.L. and Schaeffer, A.J. "Adherence of Clinically Isolated E. Coli to Vaginal Fluid", Am. Urol. Assoc., Mtg., May, 1996.

Abstract: Sensibar, J.A., Qian, Y., Navas, E.L., Gaffney, R.A., Rajan, N. and Schaeffer, A.J. "Two-Dimensional Electrophoretic Analysis of Human Vaginal Fluid Proteins", Am. Urol. Assoc., Mtg., May, 1996.

Abstract: Schaeffer, A.J., Venegas, M.F., Gaffney, R.A., Navas, E.L., Anderson, B.E., Chmiel, J.S. and Duncan, J.L. "Role of Vaginal Fluid in Urinary Tract Infections (UTIs)", Am. Urol. Assoc., Mtg., May, 1996.

Abstract: Rajan, N.,Cao,Q., Navas, E.L., Duncan, J.L., Anderson, B.E. and Schaeffer, A.J. "Identification of Free Oligosaccharides in Human Vaginal Fluid," Am. Urol. Assn., Feb., 1997.

Abstract: Rajan, N., Cao, Q., Navas, E.L., Duncan, J.L., Anderson, B.E. and Schaeffer, A.J. Identificatiion of

Glycoproteins in Human Vaginal Fluid that Bind Type 1 Piliated Escherichia coli, "Am. Urol. Assoc., Feb., 1997.

Bacterial Adhesion Studies - continued

Abstract: Rajan, N., Kaznair, H., Cao, Q., anderson, B. E., Duncan, J. L. and Schaeffer, A. J., "Immortalized Human Vaginal Cells: Bacterial Binding Characteristics," Am. Urol. Assn. Mtg., May, 1998.

Rajan, N., Cao, Q., Qian, Y., pruden, D., Sensibar, J., Duncan, J. L., Anderson, B. E. and Schaeffer, A. J., "Secretory IgA in Vaginal Fluids: Role in Bacterial Adherence," submitted

Rajan, N., Kaznari, H., Pruden, D., Cao, Q., Anderson, B. E., Duncan, J. L. and Schaeffer, A. J., "Bacterial Binding Characteristics of an Immortalized Human Vaginal Cell Line," J. Urology, 162, 1972 - 1976, 2000.

Schaeffer, A. J., Rajan, N., Wright, E. T., Duncan, J. L. and Anderson, B. E., "Role of Vaginal Colonization in Urinary Tract Infections (UTIs)," Advances in Bladder Research, 2000.

Rajan, N., Cao, Q., Qian, Y., Sensibar, J., Anderson, B. E., Duncan, J. L., and Schaeffer, A. J., "Roles of Glycoproteins and Oligosaccharides found in Human Vaginal Fluid in Bacterial Adherence," Inf. & Immun., 67 5027 - 5032, 1999.

Abstract: Schoor, R. A., Cao, Q., Pruden, D., Rajan, N., Klumpp, D. J., Anderson, B. E. and Schaeffer, A. J., "The Effect of Secretory IgA on E. coli Adherence to Vaginal Epithelium: an in vitro Model," Am/ Urol. Assn. Mtg., May, 1999.

Schaeffer, A. J., Rajan, N., Wright, E. T., Duncan, J. L. and Anderson, B. E., "Role of Vaginal Colonization in UTIs," Adv. Exp. Med. & Biol., 462, 339 -349, 1999.

Transferrin Studies

Abstract: Bean, P., Thai, T., Makhlouf, S., Nguyen, D., Hammond, J., Anderson, B., Rittenhouse, H. and Peter, J.B., "An Immunoassay to Quantitate Carbohydrate Deficient Transferrin in Serum," Am. Assn. for the Study of Liver Diseases, Chicago, Nov., 1991.

Abstract: Bean, P., Makhlouf, S., Ranken, R., Thai, T., Subauste, M.C., Kraas, K.M., Hammond, J., Anderson, B. and Peter, J.B.," A Comparative Analysis for Identification of Carbohydrate Deficient Transferrin using Isoelectric Focusing and an Enzyme Immunoassay," Research Society on Alcoholism, June, 1992.

Abstract: Makhlouf, S., Bean, P., Pankow, M. and Anderson, B., "Molecular Differences of Circulating Isoforms of Human Carbohydrate Deficient Transferrin," FASEB J., 7, A1252, 1993.

Abstract: Mahklouf, S., Pankow, M. and Anderson, B. "Production and Characterization of a Monoclonal Specific to Carbohydrate Deficient transferrin (CDT)," Research Society on Alcoholism, June 1994.

Abstract: Makhlouf, S., Davis, L., Ronger, L. and Anderson, B., "Affinity Purification and Characterization of Carbohydrate Deficient Transferrin (CDT) Using a CDT Specific Monoclonal Antibody," Research Society on Alcoholism, June, 1995.

Abstract: Tucker, L., Makhlouf, S., Davis, L., Krasnervich, D. and Anderson, B., "Reactivity of a Monoclonal Antibody to Transferrins from Carbohydrate Deficient Glycoprotein Syndromes, "Am. Assoc. Imm., June, 1996.

Makhlouf, S., Pankow, M.L., Anderson, B. E. and Bean, P., "Immunoassay for Identifying Alcoholics and Monitoring Alcohol Consumption," US PATENT -5702904. December 10, 1997. Official Gazette of the US Patent & Trademark Office Patents 1205 (5 Dec. 30). 1997. 33857.

Transplantation Studies:

Abstract: Fryer, J.P., Blondin, B., Stadler, C., Ivancic, D., Ratner, U., Kaplan, B., Kaufman, D., Abecassis, M., Stuart F. and Anderson, B., "Inhibition of Porcine Endothelial Cell Lysis by Human Serum using Peptides which Inhibit Clq Deposition," Am. Soc. Trans. Surg., May, 1996.

Abstract: Fryer, J.P., Buckingham, F., Ivancic, D., Kaplan, B., Kaufman, D., Abecassis, M., Stuart, F. and Anderson, B., "Prolongation of Discorcant Xenograft Survival by Inhibition of Clq Deposition," Am. Soc. Trans. Phys., May, 1996.

Abstract: Fryer, J.P., Blondin, B., Stadler, C., Ivancic, D., Ratner, U., Kaplan, B., Kaufman, D., Abecassis, M., Stuart F. and Anderson, B., "Inhibition of Porcine Endothelial Cell Lysis by Human Serum using Peptides which Inhibit Clq Deposition," XVI Int. Congress of the Transplantation Society, Barcelona, August, 1996

Abstract: Fryer, J.P., Buckingham, F., Ivancic, D., Kaplan, B., Kaufman, D., Abecassis, M., Stuart, F. and Anderson, B., "Prolongation of Discorcant Xenograft Survival by Inhibition of Clq Deposition," 2nd Bi-annual Symposium on Xenotransplantation, San Diego, October, 1996.

Fryer, J.P., Buckingham, F., Ivancic, D., Kaplan, B., Kaufman, D., Abecassis, M., Stuart, F. and Anderson, B., "Inhibition of Human Complement Mediated Lysis of Porcine Endothelial cells using a Peptide that Blocks Clq Binding to Xenoantibody," Transplantation

Abstract: Fryer, J.P., Blondin, B., Stadler, C., Ivancic, D., Ratner, U., Kaplan, B., Kaufman, D., Abecassis, M., Stuart F. and Anderson, B., "Inhibition of Porcine Endothelial Cell Lysis by Human Serum using Peptides which Inhibit Clq Deposition", XVI Int. Congress of the Transplantation Society, Bareclona, August, 1996.

Fryer, J.P., Blondin, B., Yoder, M., Ivancic, D., Buckingham, F., Kaufman, D., Abecassis, M., Stuart, F. and Anderson B., "Inhibition of Complement Activation and Prolongment of Xenograft Survival by Diaromatic Peptide (Tryptophan-Tyrosine) Conjugates,"

Transplantation Studies - continued

Abstract: Fryer, J.P., Buckingham, F., Leventhal, J.R., Blondin, B., Ivancic, D., Kaplan, B., Kaufman, D., Abecassis, M., Stuart, F. and Anderson, B., "Prolongation of Discorcant Xenograft Survival using Clq Inhibition Peptides," Am. Soc. Trans. Phys., May, 1997.

Abstract: Fryer, J.P., Firca, J., Doering, S., Stadler, K., Roh, J., Hong, A., Blondin, B., Leventhal, J.R., Kaufman, D.B., Abecassis, M., Stuart, F. and Anderson, B., "Avian (IgY) Antibodies: Reactivity to αGal Epitopes and Potential for Blocking Human Anti-aGal Antibodies," Am. Soc. Trans. Surg., May, 1997.

Abstract: Fryer, J.P., Ivancic, D., Buckingham, F., Blondin, B., Leventhal, J.R., Kaufman, D.B., Abecassis, M., Stuart, F. and Anderson, B., "Alteration of the αGal Epitopes of Porcine Tissues and Cells by Sodium Periodate Oxidation" Am. Soc. Trans. Surg., May, 1997.

Abstract: Fryer, J.P., Yoder, M., Kindra, J., Stadler, C., Blondin, B., Leventhal, J.R., Kaufman, D.B., Abecassis, M., Stuart, F., and Anderson, B., "Inhibition of Complement Activation by Diaromatic (Trp-Tyr)Conjugates", Am. Soc. Trans. Surg., May, 1997.

Abstract: Fryer,J., Yoder, M., Kindra, J., Stadler, K., Blondin, b., Leventhal, J., Kaufman, D., Abecassis, M., Stuart, F. and Anderson, B., "Prevention of Classical Pathway Complement Activation by Inhibiting Antibody-C1q Interactions," Am. College of Surgeons, Oct., 1997.

Abstract: Fryer, J.P., Doering, S., Roh, J., Hong, A., Blondin, B., Leventhal, J., Kaufman, D., Abecassis, M., Stuart, F. and Anderson, B., "Avian (IgY) Antibodies: Reactivity to alphaGal Epitopes and Blocking of Human Anti-alphaGal Antibodies," Int. Congress on Xenotransplantation, Sept., 1997.

Abstract: Fryer, J., Buckingham, F., Leventhal, J., Blondin, B., Ivancic, D., Kaufman, D., Abecassis, M., Stuart, F. and Anderson, B., "Prolongment of Discordant Xenograft Survival by Preventing Classical Pathway Activation with C1q Inhibitory Peptides," Int. Congress on Xenotransplantation, Sept., 1997.

Transplantation Studies - continued

Abstract: Fryer, J., Yoder, M., Kindra, J., Wang, H., Zhong, R., Blondin, B., Leventhal, J., Kaufman, D., Abecassis, M., Stuart, F. and Anderson, B., "Inhibition of Complement Activation by Diaromatic (Trp-Tyr) Conjugates," Int. Congress on Xenotransplantation, Sept., 1997.

Abstract: Fryer, J., Ivancic, D., Buckingham, F., Blondin, B., Leventhal, J., Kaufman, D., Abecassis, M., Stuart, F. and Anderson, B., "Alteration of AlphaGal Immunogenicity of Porcine Tissues by Enzymatic Remaval or Periodate Oxidation," Int. Congress on Xenotransplantation, Sept., 1997.

Abstract: Roh, J.D., Hong, A. L., Anderson, B.E. and Fryer, J. P., "Ostrich Anti-alphaGal, Chicken Anti-alphaGal and Griffonia simplcifolia-1 as Potential Competitive Blockers in Xenotransplant Rejection," AAAS, Am. Jr. Acad. Sci., Feb., 1997, Seattle, WA.

Abstract: Wu, S. and Anderson, B. E., "Complement Inhibitors - Use in Xenotransplantation," Student research Symp., Nat. Consortium for Specialized Schools of Mathematics, Sciene and Technology, June, 1998.

Abstract: Wu, S., Chen, K., Napochi, D., Anderson, B. E. and Fryer, J. P., "Pig to Human Transplantation, AAAS Mtg., Am. Jr. Acad. Sci., Anaheim, CA, Feb., 1999.

Abstract: Fryer, J. P., Blondin, B., Leveenthal, J. R., Zhang, J., Pao, W., Kaufman, D. B., Abecassis, M., Stuart, F. and Anderson, B. E., " Anti-alphaGal Xenoantibodies Facilitate Monocyte Adherence to Porcine Aortic Endothelial Cells (PAECs)," Am. Soc. Transplant Surgeons, May, 1999.

Abstract: Fryer, J. P., Ivancic, D., Zhang, J., Leventhal, J. L., Blondin, B., Pao, W., Kaufman, D. B., Abecassis, M., Stuart, F. and Anderson, B. E., " Induced Anti-Porcine Aortic Endothelial Cell (PAEC) Antibodies Upregulate E-Selectin and VCAM Expression in PAECs," Am. Soc. Transplant Surgeons, May, 1999.

Abstract: Shah, A. H., Anderson, B. E., Leventhal, J. R., Pao, W., Zhang, J., Kaufman, D. B., Abecassis, M., Stuart, F. and Fryer, J. P., "Induction of in vitro Accomodation of Porcine Endothelial Cells by Human Anti-alphaGal

Xenoantibodies," Am. Soc. Transplant Surgeons, May, 1999.

Trnasplantation Studies - continued

Abstract: Fryer, J.P., Blondin, B., Firca, J., Leventhal, J., Zhang, J., Shah, A., Pao, W., Kaufman, D., Abecassis, M., Stuart, F. and Anderson, B., "IgY Anti-alphaGal Antibodies Inhibit ADCC of Porcine Aortic Endothelial Cells (PAECs)," 5th Cong. Int. Xenotransplantation Assoc., Kyoto, Oct., 1999.

Abstract: Fryer, J., Ivancic, D., Leventhal, J., Pao, W., Blondin, B., Niekraz, M., Zhang, J., Kaufman, D., Abecassis, M., Stuart, F. and Anderson, B., "The Induced Primate Xenoantibody Response to Non alphaGal Porcine Endothelial Cell Antigens," 5th Cong. Int. Xenotransplantation Assoc., Kyoto, Oct., 1999.

Abstract: Shah, A., Anderson, B., Leventhal, J., Pao, W., Zhang, J., Kaufman, M., Abecassis, D., Stuart, F. and Fryer, J., "Induction of in vitro Accommodation of Porcine Endothelial Cells by Human Anti-alphaGal Xenoantibodies," 5th Cong. Int. Xenotransplantation Assoc., Kyoto, Oct., 1999.

Abstract: Fryer, J., Blondin, B., Leventhal, J., Zhang, J., Pao, W., Kaufman, D., Abecassis, M., Stuart, F. and Anderson, B., "Anti-alphaGal Xenoantibodies Facilitate Monocyte Adhesion to Porcine Aortic Endothelaial Cells (PAECs)," 5th Cong. Int. Xenotransplantation Assoc., Kyoto, Oct., 1999.

Abstract: Fryer, J., Ivancic, D., Zhang, J., Leventhal, J., Blondin, B., Kaufman, D., Abecassis, M., Stuart, F. and Anderson, B., "Induced Anti-Porcine Endothelial Cell (PEC) Xenoantibodies (XAbs) Upregulate E-Selectin and VCAM Expression," 5th Cong. Int. Xenotransplantation Assoc., Kyoto, Oct., 1999.

Fryer, J. P., Zhang, Z., Roslkowski, J., Pao, W., Niekrasz, M., Leventhal, J., Abecassis, M. and Anderson, B., "Isotype and IgG Subtype Switches Associated with an Elicited Primate Xenoantibody Response to Non-alphaGal Porcine Endothelial Antigens," Am. Soc. Transplantation, Chicago, May, 2000.

Transplantation Studies - continued

Tishler, D. S., Fryer, J. P., Anderson, B., Ivancic, D., Leventhal, J. and Zhang, Z., "Temporal Characterization of Anti-alphaGal Mediated cardiac Graft Rejection in a Murine Model," Am. Soc. Transplantation, Chicago, May, 2000.

Leventhal, J., Su, A., Kaufman, D., Abecassis, M., Anderson, B. and Fryer, J. P., "Altered Infectivity of Porcine Endogenous Retrovirus by Protective Avian Antibodies: Implications for Pig - Human Xenotransplantation," Am. Soc. Transplantation, Chicago, May, 2000.

Kim, T. and Anderson, B., "Isolation and Characterization of Human Anti-alphaGal Antibodies," Am. Soc. Adv. Sci., Am. Jun. Acad. Sci., Washington, D.C., Feb., 2000.

Fryer, J. P., Firca, J., Leventhal, J. R., Blondin, B., Malcolm, A., Ivancic, D., Gandhi, R., Shah, A., Pao, W., Abecassis, M., Kaufman, D. B., Stuart, F. and Anderson, B. E., IgY Anti-Porcine Endothelail Cell Antibodies Effectively Block Human Anti-Porcine Xenoantibody Binding," Xenotransplantation, 56, 98 - 109, 1999.

Fryer, J. P., Leventhal, J. R., Pao, W., Stadler, C., Jones, M., Walsh, T., Zhong, R., Zhang, Z., Wang, H., Goodman, D. J., Kurek, M., d'Apice, A. J. F., Blondin, B., Ivancic, D., Buckingham, F., Kaufman, D., Abecassis, M., Stuart, F. and Anderson, B. E., "Sysnthetic Peptides which Inhibit the Interaction between C1q and Immunoglobulin and Prolong Graft Survival," Transplantation, 70 828 -836, 2000.

Walsh, W.E., Anderson, B. E., Ivancic, D., Zhang, Z., Paccini, J. P., Rodgers, T. G., Pao, W. and Fryer, J. P., "Distribution of and Immune Response to Chicken anti-alphaGal Immunoglobulin Y Antibodies in Wild-Type and alphaGal Knockout Mice," Immunology, 101, 1 - 11, 2000.

Cook, C. L., Pao, W., Firca, J. R., Anderson, B. E. and Fryer, J. P., "Simple Purification Methods for alphaGalactose-Specific Antibody form Chicken Eggs,", J. Biosci. & Bioeng., 91, 305 - 310, 2001.

Other Studies

Carruthers, M. and Anderson, B., "Inhibition by Polyanions of Vibrio Parahaemolyticus Adherence: A Physiochemical Effect", J. Inf. Dis., 140, 119-122, 1979.

Jemmerson, R., Kaplan, B., Denton, M.D., Anderas, P., Anderson, B. and Margoliash, E., "Six Related Protein Products from a Single Patient with Multiple Myeloma," Biochemistry, 18, 4676-4683, 1979.

Anderson, B., Donakowski, C., Entwistle, R. and Davis, L., "Reisolation of Immunoreactive Radioiodinated Antigens Using Glutaraldehyde-Insolubilized Antibody Preparations," J. Immunological Methods, 36, 309-314, 1980.

Davis, L.E., Roth, S.A. and Anderson, B., "Antisera Specificities to 1-Ethyl-3-(3-Dimethylaminopropyl) Carbodiimide Adducts of Proteins," Immunology, 53, 435-441, 1984.

Abstract: Cohen, I., Drisdel, R.C. and Anderson, B., "Factor XIII-Catalyzed Polymeric Assemblies in Platelets," 32nd Meeting of the International Committee on Thrombosis and Hematology, Jerusalem, June, 1986.

Pandey, R., Davis, L.E., Anderson, B. and Hollenberg, P.F., "Photoaffinity Labeling of Primary Aromatic Amines to Carrier Proteins to Elicit Antibody Response Against the Amine Haptens," J. Immunol. Methods, 94, 237-246, 1986.

Cohen, J. and Anderson, B. "Immunochemical Characterization of Transglutaminase-Catalyzed Polymers of Activated Platelets," Thromb. Res., 47, 409-416, 1987.

Abstract: Koch, A.E., Burrows, J.C., Marder, R., Domer, P., Anderson, B. and Leibovich, S.J., "Preliminary Characterization of Monocyte/Macrophage (mo) Heterogeneity using Monoclonal Antibodies Generated to U937 Cells and Human Rheumatoid (RA) Tissue Synovial Macrophages," 4th International Conference on Leukocyte Differentiation Antigens, Tissue Antigens, 33, 205 1988.

Other Studies - continued

Abstract: Koch, A.E., Burrows, J.C., Marder, R., Domer, P., Anderson, B. and Leibovich, S.J., "Monocyte/Macrophage (mo/mo) Heterogeneity Defined by a Panel of Monoclonal Antibodies Produced to Rheumatoid (RA) Synovial Tissue Mo," American Federation for Clinical Research, Clin. Res., 37, 413A, 1989.

Abstract: Kim, J.G., Miller, M.M., Anderson, B., Rebar, R.W. and LaBarbera, A.R., "Anti-Ovarian Antibody Titers Correlate with Serum FSH Concentrations in Experimentally Induced Ovarian Failure," Soc. Gynecologic Investigation, March, 1989.

Clark, C.R., Kresl, J.J., Hines, K.K. and Anderson, B.E., "An Immunofiltration Apparatus for Accelerating the Visualization of Antigen on Membrane Supports," Anal. Biochem., 228, 232-237, 1995.

Abstract: Kim, J.G., Anderson, B.E., Rebar, R.W. and LaBarbera, A.R., "Determination by ELISA of Anti-ovarian Antibodies in Premature Ovarian Failure," Am. Fertility Soc., Nov., 1989.

Abstract: Pankow, M.L., Cane, R. and Anderson, B., "Development of Enzyme-Linked Lectin Assay for the Detection and Quantitation of Desialylated Serum Glycoproteins," Fed. Proc., 45, 3359, 1986.

Abstract: Pankow, M.L., Cane, R. and Anderson, B., "Quantitation in Sera of Desialylated Glycoproteins using an Antibody and Lectin Sandwich Assay," Soc. Complex Carbohydrates, Charleston, S. C., Nov. 1986.

Abstract: Clark, C., Kresl, J., Hines, K., Anderson, B. and Mallia, A.K., "An Apparatus for Rapid Detection of Western and Dot-Blotted Proteins," FASEB J., 5, A913, 1991.

Abstract: Davis, L., Jokinen, D., Turk, L., Radvany, M., Theophilus, A., Fitzsimons, E. and Anderson, B., "Immunoassays for Hemoglobin Alc Employing Antibodies Directed to a Reductively Modified Peptide Immunogen." FASEB J., 5, A913, 1991.

Other Studies - continued

Koch, A.E., Burrows, J.C., Marder, R., Domer, P,, Anderson, B. and Leibovich,S.J.,"Monoclonal Antibodies Detecting Monocyte/Macrophage Activation and Differentiation Antigens and Identifying Functionally Distinct Subpopulations of Human Rheumatoid Synovial Tissue Macrophages," Am. J. Path., 138, 165-173, 1991.

Kim, J.G., Anderson, B.E., Reban, R.W. and LaBarbera, A.R., "A Biotin-Streptavidin Enzyme Immunoassay for Detection of Antibodies to Porcine Granulosa Cell Antigens," J. Immunoassay, 12, 447-464, 1991.

Abstract: Holloran, M.M., Haskell, C.J., Carley, W., Shah, M.R., Anderson, B. and Koch, A.E., "4A11: A Cytokine-Inducible Endothelial Antigen," J. Invest. Med., 43, 335A, 1995.

Clark, C.R., Kresl, J.J., Hines, K.K. and Anderson, B.E., "An Immunofiltration Apparatus for Accelerating the Visualization of Antigen on Membrane Supports", Anal. Biochem., 228, 232-237, 1995.

Woods, J. M., Campbell, P. L., Polverini, P. J., Anderson, B. and Koch, A. E., "The Soluble 4A11 Antigen is Angiogenic in vivo and is Upregulated in Rheumatoid Arthritis Compared to Osteoarthritis Synovial Fluid and Serum, submitted for review.

Abstract: Woods, J. M., Campbell, P. L., Polverini, P. J., Anderson, B. E. and Koch, A. E., "The Soluble 4A11 Antigen is Angiogenic in vivo and is Upregulated in Rheumatoid Arthritis Compared to Osteoarthritis Synovial Fluid and Serum," Assoc. Clin. Res. Mtg, Nov., 1997, Washington, D.C.

Abstract: Woods, J. M., Campbell, P. L., Polverini, P. J., Anderson, B. E. and Koch, A. E., "The Soluble 4A11 Antigen is Angiogenic in vivo and is Upregulated in Rheumatoid Arthritis Compared to Osteoarthritis Synovial Fluid and Serum," Am. Fed. Med. Res., April, 1998, J. Inv. Med., 46, 233A, 1998.

PATENT APPLICATIONS

1. Binding of immune complexes by modified forms of c-reactive protein.
   Applicants: Northwestern University and
   Rush - Presbyterian - St. Luke's Medical Center
   Inventors: Potempa and Anderson
   U.S. application Serial No. 07/582,884,
   Filed: October 3, 1990
   Refiled: 08/271,137; July 6, 1994 - 2545/73
   Status: Issued: January 14, 1997; US Letter Patent No. 5,593,897
   PCT application number PCT/US89/01247
   Filed March 31, 1989 (2545/11)
   Status: Nationalized

   Australian application no. 34485/89
   Filed: March 31, 1989 (2545/24)
   Status: Issued, 6/11/93; Serial #633488

   Japanese application No. 1-504716
   Filed: March 31, 1989 (2545/26)
   Status: Pending, awaiting examination

   Canadian application No. 595,543
   Filed April 3, 1989 (2545/10)
   Status: Pending, no action yet

   EPO application No. 89904944.9
   Filed March 31, 1989 (2545/25)

2. A synthetic peptide and its uses
   Applicant: Northwestern University
   Inventors: Baumann and Anderson
   U.S. application Serial No. 07/598,416
   Filed: October 16, 1990 (2545/28)
   Status: Issued November 15, 1994
   Patent Number 5,364,930

   PCT application number PCT/US91/07581
   Filed: October 9, 1991
   Status: Pending

PATENT APPLICATIONS- continued

3. Binding of aggregated immunoglobulin or immune complexes by serum amyloid P component
Applicant: Northwestern University
Inventors: Anderson and Brown
U.S. application Serial No. 07/672,526

Filed: March 19, 1991 (2545/21)
Status: Issued 6/22/93, P-5,221,628

4. Immunoassay for glycosylated proteins employing antibody to reductively glycosylated amino acids
Applicant: Northwestern University
Inventors: Davis and Anderson
U.S. application Serial No. 07/397,781 (2545/5)
08/068,525 (5/27/93) (2545/51)
08/151,073 (11/12/93) (2545/52)
Filed: August 23, 1989
Status: Granted; U.S. Letters Patent No. 5,484,735

PCT application no. PCT/US90/04666
Filed: August 17, 1990 (2545/23)
Status: Nationalized

EPO application no. 90913261.5
Filed: August 17, 1990 (2545/37)
Status: Granted

Japanese application no. 2-512516
Filed: August 17, 1990 (2545/38)
Status: Pending, awaiting examination

PATENT APPLICATIONS- continued

5. Immunoassay for detecting and monitoring alcoholics
Applicants: Northwestern University and Immtech Int. Inc.
Inventors: Makhlouf, Pankow, Anderson and Bean
U.S. application Serial No. 07/765,169;
Filed: September 25, 1991 (2545/8)
08/272,852; July 08, 1994 (2545/74)
Status: granted

PCT application Serial No. PCT/US92/08136
Filed: September 25, 1992 (2545/44)
Status: Nationalized

EPO application no. 92921176.1
Filed: August 25, 1992 (2545/60), granted

Japanese application no. 5-506376
Filed: 9/25/92 (2545/61)

Canadian application no. 2119651
Filed: 9/25/92 (2545/59), granted

Australian application no. 27577/92
Filed 9/23/92 (2545/58), granted

6. Methods of Treating Cancer Using Modified C-Reactive Protein
Applicants: Northwestern University and Immtech Int. Inc.
Inventors: Potempa, Kresl and Anderson
U.S. application Serial No. 07/874,263
Filed: April 24, 1992
Status: Issued December 12, 1995
US Letters Patent No. 5,474,904
PCT application no. PCT/US/03769
Filed: 4/22/92 (2545/50)
Status: Nationalized
EPO application no. 93910710.8, Filed: 4/22/93 (2545/81)

Japanese application no.5-518361, Filed: 4/22/93 (2545/80)

Canadian application no. 2432001, Filed: 4/22/93 (2545/80)

Australian application no. 41109/93,
Filed: 4/22/93 (2545/79)

PATENT APPLICATIONS- continued

7. Method of detecting cancer
Applicants: Northwestern University and Immtech Int. Inc.
Inventors: Anderson and Davis
U.S. application Serial No. 07/939,830
Filed: September 3, 1992 (2545/9)
Status: Issued December 27, 1994
Patent Number 5,376,531

Japanese application No. 4-293052
Filed: October 30, 1992 (2545/45)
Status: Pending

8. Methods of Imaging Cancer Cells Using Modified C-Reactive Protein
Applicant: Northwestern University
Inventors: Potempa, Kresl and Anderson
U.S. Application 149,663
Filed Nov. 9, 1993
Status: Issued December 12, 1995
US Letters Patent No. 5,474,904

9. CIP to Synthetic Clq Peptide Fragments - use in transplantation
Applicant: Northwestern University
Inventors: Baumann, Anderson and Fryer
Filed: April 6, 1996 to US patent office
Status: granted

PCT of same:
Application and Inventors: Baumann, Anderson and Fryer
Filed: April 4, 1997
Status: withdrawn

10. Method of Inhibiting Complement
Applicants and Inventors: Anderson and Fryer
Filed: April 14, 1997 to US patent office
Status: granted

11. Peptides Comprising Aromatic D-Amino Acids and Methods Of Use
Inventor: Byron E. Anderson
US patent filed July 3, 2002
PCT application filed July 3, 2003

CURRICULUM VITAE

Byron E. Anderson

Date of Birth: December 30, 1941; Hammond, Indiana

Education:

B.A.	1963	Kalamazoo College, Kalamazoo, Michigan; Chemistry and Biology
Ph.D.	1968	University of Michigan, Ann Arbor, Michigan; Biochemistry; also student at John Hopkins University, Baltimore, Maryland 1966-1968. Thesis Advisor: Dr. Saul Roseman

Positions Held:

Postdoctoral Fellow - 1968-1971, Columbia University, College of Physicians and Surgeons, New York, New York. Advisor: Dr.Elvin A. Kabat.

Assistant Professor, Departments of Biochemistry, and Otolaryngology and Maxillofacial Surgery, Northwestern University Medical School, 1971-1977.

Associate Professor, Departments of Biochemistry, and Otolaryngology and Maxillofacial Surgery, Northwestern University Medical School, 1977-1982.

Associate Professor, Department of Molecular Biology and Biochemistry Program 1982-1984.

Professor, Departments of Molecular Biology, and Otolaryngology and Head and Neck Surgery, Northwestern University Medical School, 1984-1989.

Professor, Departments of Cell and Molecular Biology, and Otolaryngology and Head and Neck Surgery, Northwestern University Medical School, 1989-present.

Professor, Department of Urology, 1995 - present.

Member, Cancer Center, 1975 -

Member, Arthritis Research Program, 1976 - ; Multipurpose Arthritis Center, 1983 -

Member, Tumor Cell Biology Program, 1979 -

Member, Interdisciplinary Program in Molecular, Cellular and Integrative Biomedical Sciences, 1983 - 1990.

Member, Molecular and Cellular Biology Training Program, 1983 -
Member, Medical Scientist Training Program, 1985 -

Member, Biotechnology Training Program, 1993 -

Honors and Fellowships:

1974-1979, Research Career Development Awardee of NIH (NIAMDD)

1973-1974, Senior Investigator of the Arthritis Foundation

1968-1971, Postdoctoral Fellow of the Helen Hay Whitney Foundation and the National Cystic Fibrosis Research Foundation

1963-1968, United States Public Health Service Trainee

1963, summer National Science Foundation Undergraduate Trainee

Professional Societies and Activities:

American Association for the Advancement of Science
American Society of Biochemistry and Molecular Biology
American Association of Immunologists
International Society for Oncodevelopmental Biology and Medicine
Society for Complex Carbohydrates
American College of Rheumatology
International Society for Artificial Organs
The Protein Society
Advisor or Consultant to a number of biotechnology companies: Sangtec Medical, Fresenius, Abbott Labs., Chugai Pharm. LTD, Vivex Therapeutics,Inc., Carbohydrates Int., Toagosei Pharm.

Students:

Celia Kaye, Ph.D.,	1976
Linda Hanson, M.S.,	1976
Margaret Steffes, M.S.,	1977
Lorraine Gill, Ph.D.,	1977
Tod Sloan, Ph.D.	1979
John Jay Weiss, M.S.,	1979
Lyman Davis, M.S.,	1980
Mark Pankow, M.S.,	1983
Lyman Davis, Ph.D.	1984
Ruth Entiwstle, Ph.D.,	1986
John Jay Weiss, Ph.D.,	1986
Mark Pankow, Ph.D.,	1988
Michael Baumann, Ph.D.,	1990
Michael Shields, Ph.D.,	1991
John J. Kresl, Ph.D.,	1992
Marilyn Brown, Ph.D.,	1992
Winnie Pao, M.S.	1993
NaMi Cho, M.S.,	1994
Joseph Orlando, M.S.,	1994
Sanjiv Gupta, M.S.,	1994
Katherine Worthington, Ph.D.,	1994
Jai Syn, M.S.,	1995
Cristopher Olenec, M.S.	1995
Lora Tucker-Garcia, M.S.	1995
Uri Ratner, M.S.	1996
Christina Stadler, M.S.	1996
Lora Kastrup, M.S.	1996
Marsha Yoder, M.S.	1997
Jasbir Kindra, M.S.	1997
Sharon Doering, M.S.	1997
Clara Smith, M.S.	1998
Ethan Buckley, M.S.	1999
Scott Rosenblum, M.S.	2000
Nancy Sullivan, M.S.	2000
Jeffery Black, M.S.	2000

Trainees:

Postdoctoral Fellows:

Deepika Paul	Mario Venegas
Samar Maklouf	Thomas Rohr
Jitendra Verma	Michio Tanaka
Shiva Motameni	Stewart Nelson
Lyman Davis	Ramendra Pandey
Bernard Kubak	Donna Bishop

Residents in Rheumatology:

Mike Repice
Albert Iammartino
Charlotte Harris
William Liu
Cynthia Gustafson

Residents in Otolaryngology:

Deyan Popovic
Susan Lyon

Medical Students:

James Carr, Robert Sobut, Denise Mistro, Susan Roth
Thomas Lucke, Sarah Keesara, Ragu Thunga, Thomas Walsh
Thomas Henthorn, Paul Lyon, Martin Radvany, Ateet Shah
Tapubrata Ghosh, Annette Barns, James Misak, Ripal Ghandi
Roberta Gausas, Reeva Shulruf, Samir Taneja
William Walsh, Kyle ver Steeg, Sylvester Black

Biotechnology Program Students:

Winnie Pao	Cristina Stadler	Marcia Yoder
Ayano Takamoto	Christopher Olenec	Jasbir Kindra
Lourdes Bermejo	Jai Syn	Joseph Orlando
Uri Ratner	Nami Cho	Lora Kastrup
Sanjiv Gupta	Sharon Doering	Clara Smith
Ethan Buckley	Scott Rosenblum	Nancy Sullivan
Jeffrey Black		

Undergraduate Students:

Marlene Morrison	Loretta Liu	Jennifer Shaw
Daniel Fryxell	John Zachariah	Jason Roh
Michael Baumann	Denise Mistro	Andrew Hong
Ragu Thunga	Askok Kukadia	Kirsten Stadler
Martin Radvany	Gautham Reddy	SandyShaw
Andrew Radvany	Stephanie Wu	Katherine Chen
Daniel Roh	David Napochi	Thomas Kim

Students, Thesis, Present Position

Celia Kaye, M.D., Ph.D.
Cystine Reduction and Transport in Cystinotic and Normal Fibroblasts
Ph.D., Biochemistry, 1985
Head, Genetics, U. of Texas, San Antonio

Linda Hanson, M.S.
Characteristics of the Antigenic Reactivities of Rheumatoid Arthritic Synovial Fibroblasts
M.S., Clinical Pathology, 1976

Lorraine Gill, Ph.D.
Characterization of Reactivities of Anti-Cellular Sera with Tumor Cells in Vitro
Ph.D., Biochemistry, 1977
Research Scientist, New England Nuclear

Margaret Lu Steffes, M.S.
Delineation and Partial Characterization of an Associated Rhematoid Arthritic Reactive Antigen
M.S. Biochemsitry, 1977
Senior Manager, Abbott Labs

Tod B. Sloan, M.D., Ph.D.
A Study of Synovial Cell Antigens
Ph.D., Biochemsitry, 1978
Associate Professor, Dept: Anesthesiology, U. of Texas, San Antonio

John Jay Weiss, M.S., Ph.D.
Studies on the Platelet Derived Connective Tissue Activating Peptide
M.S., Clinical Pathology, 1979
Program Director in Allergy, Diagnostic Products Corp.

Lyman E. Davis, M.S., Ph.D.
Immunoassays for Fibronectin
M.S., Clinical Pathology, 1980
Senior Director, Takeda Abbott

Mark L. Pankow, M.S., Ph.D.
Immunochemical Staining of Cancer Tissues
M.S., Clinical Pathology, 1983
Director of R&D, Parke DeWatt Labs

Students, Thesis, Present Position - continued

Lyman E. Davis, M.S., Ph.D.
Specificities of Antibodies to a Carbodiimide and to the Amino-Terminus of a Platelet Mitogen
Ph.D., Tumor Cell Biology, 1984
Senior Director, Takeda Abbott

Ruth A. Entwistle, Ph.D.
A Kinetic Study of Fibronectin and the Clq Component of Complement Ph.D.,
Tumor Cell Biology, 1986
Research Associate, Washington U. School of Medicine

Mark L. Pankow, M.S., Ph.D.
Development of an Assay for Detection of Galactose Terminated Glycoprotiens in Biologic Fluids
Ph.D., Tumor Cell Biology, 1988
Director of R&D, Parke DeWitt Labs.

John Jay Weiss, M.S., Ph.D.
Studies of Complement Mediated Interactions Between Fibronectin and Immune Complexes
Ph.D., Tumor Cell Biology, 1989
Program Director in Allergy, Diagnostic Products Corp.

Michael A. Baumann, Ph.D.
Synthetic Peptides with Immune Complex Binding Activity
Ph.D., Tumor Cell Biology, 1990
Research Scientist, Abbott Labs.

Michael J. Shields, Ph.D.
Characterization and Use of Monoclonal and Polyclonal Antibodies
Directed Against C-Reactive Protein in the Fluid and Solid Phase
Detection of Altered Forms of C-Reactive Protein in Humans
Ph.D., Molecular Biology, 1991
Postdoctoral Fellow, National Institutes of Health

Students, Thesis, Present Position - continued

John Joseph Kresl, Ph.D., M.D.
Evaluation of Native Modified Human C-Reactive Protein Interconversion: Possible Role for Modified C-Reactive Proteins in Tumor Inhibition
Ph.D., Tumor Cell Biology, 1992, MD, 1993
Staff Physician, Radiation Oncology, St. Mary's Hospital, Phoenix,

Marilyn R. Brown, Ph.D.
Receptor-Ligand Interactions Between Serum Amyloid P Component
and Model Soluble Immune Complexes
Ph.D., Tumor Cell Biology, 1993
Research Scientist, Baxter Labs.

Winnie Pao, M.S.
Autoantibodies in Colon Cancer
M.S., Biotechnology Program, 1993
Research Associate, Division of Transplantation, NUMS

Katherine Worthington, Ph.D.
Design of Peptides Binding to Beta-2-microglobulin and Immunoglobulin G
Ph.D., Tumor Cell Biology, 1994
Research Analyst, Research Corp. Technologies

NaMi Cho, M.S.
Binding of IgG Aggregates to CBP2-Amino Link
M.S., Biotechnology Program, 1994
Postdoctoral Fellow, Boston University

Joseph Orlando, M.S.
CBP2 Binding of Aggregated-IgG
M.S., Biotechnology Program, 1994
Graduate Student, Dept. of Microbiology-Immunology, Wake Forest University, Bowman Gray School of Medicine

Sanjiv Gupta, M.S.
Detection of a Transferrin Isoform Associated with Alcohol Consumption
M.S., Biotechnology Program, 1994
Medical Student, University of Indiana

Students, Thesis, Present Position - continued

Jai Syn, M.S.
Specificities of Binding of Lectins to an Aromatic Carbohydrate Mimetic Library
M.S., Biotechnology Program, 1995
Research Associate, Abbott Labs.

Christopher Olenec, M.S.
Binding of Proteins to a Secondary Structure Limited Peptide Library
M.S. Biotechnology Program, 1995.
U.S. Commerce Dept. on FDA Regulations, Washington, D.C.

Lora Tucker-Garcia, M.S.
Carbohydrate Deficient Glycoproteins: Significance in Carbohydrate Deficient Glycoprotein Syndrome, Alcoholism, and Fetal Alcohol Syndrome
M.S., Biotechnology Program, 1996
Research Associate, Abbott Labs.

Uri Ratner
Characterization of Xenoreactive Antibodies Important in Transplant Rejection
M.S. Biotechnology program, 1996
Research Analyst, Venture One

Cristina Stadler
Complement Inhibition by Peptides in Hyperacute Rejection Reactions
M.S., Biotechnology Program, 1996
Division Manager, Baxter Labs.

Lora Kastrup
Study of Vaginal Fluid Oligosaccharides in UTIs
M.S., Biotechnology Program, 1996
Research Associate, Baxter Healthcare Corporation

Jasbir Kindra, M.S., LL.D.
Complement Inhibition Through the Use of Diaromatic Peptides to Allow Xenotransplantation
M.S., Biotechnology Program, 1997
Patent Attorney, Green Bay, WI

Students, Thesis, Present Position

Marcia Yoder, M.S.
Studies on Complement Inhibition by a Diaromatic Peptide, Tryptophan-Tyrosine
M.S., Biotechnology Program, 1997
Research Associate, Eli Lilly Co.

Sharon Doering, M.S.
Avian IgY antibodies - Use in Xenotransplantation
M.S., Biotechnology Program, 1997
Biotechnology Analyst, Madison Securities

Clara Smith, M.S.
Cross-Linked Avian IgY and Human IgG as Potential Inhibitors of Rejection in Xenotransplantation
M.S., Biotechnology Program, 1998
Research Scientist, Glaxo Welcome

Committee Service:

Research Committee, Medical and Dental Schools
Sigma XI Symposia
Medical Applicant Interview
Cancer Center Library
General Services Committee of Faculty Senate
Faculty Senate
Biochemistry Workshop
Departmental Outside Speaker, Equipment, Library
Graduate Affairs Committee
VA Research Development Committee
Executive Committee of the Biochemistry Program
Cancer Center Equipment
Cancer Focus
Medical Admissions
Tumor Cell Biology Program
Comprehenisve Examination
Pre-Thesis and Thesis Committees for 33 students
University Research Grants Committee
General Faculty Committee
Graduate Professional Education of the Physician
Task Force on the Future of the Medical Library
Microbiology Department Review Committee
Medical Senate Council
Medical Council
Medical Library Long-Range Planning Committee
Program Review of Microbiology-Immunology
Program Review of Physical Therapy Curriculum
Research Program Committee on Immunobiology
Intellectual Property Committee
Medical School Urology Chair Search Committee
Medical School Division Making Course Development Committee
Medical School Research Council
Biotechnology Program: Executive Committee, Admissions,
Advisory Board
Honors Program in Medical Education
Program Review Committee - Mol. Pharm. & Biochem.

Committee Service 1984 -
University:

General Faculty Committee, 1982-1985
Subcommittee on Benefits
Chair, GFC/Trustees Meeting, 1983, 1984
Intellectual Property Committee, 1989-1996
University Research Grants Committee, 1973 - 1976; 1995 -
Biotechnology Program:Executive Committee, Admissions, Advisory Board, 1992 -

Medical School:

Medical Senate Council, 1984-1988
General Profession Education of the Physician Committee
Chair, Subcommittee on Faculty Involvement, 1985-1986
Research Long-Range Planning in Immunobiology, 1985-1986
Chair, Research Program Committee on Immunobiology, 1985- 1990
Medical School Admissions, 1972 -
Honors Program in Medical Education, 1996 -

Departmental:

Appointments, Promotion, Tenure
Graduate Affairs
Course/Exam/Certificate - Chair
Promotions - Chair
Library
Recruitment - Chair

Teaching Service:

1. Medical, Biochemistry, laboratory section
   Subjects: Statistics, acid-base balance, nutrition, automated analyses, topics in immunology and autoimmune diseases

2. Medical, Biochemistry, lecture
   Topics: glycogen metabolism
   mucopolysaccharides, saccharide interconversions
   glycoproteins
   hexose monophosphate pathway
   post-ribosomal processing of proteins

3. Medical, biochemistry, lecture and independent study of immunology with students with proficiency in biochemistry

4. Medical, immunology, lectures on antibody structure and antibody - antigen interactions

5. Medical, basic oncology, lectures on biological membranes

6. Graduate, survey course in immunology

7. Graduate, lecture and seminar on biological membrane topics

8. Graduate, lectures in immunlology on antibody structure, antigenic determinants, antibody-antigen interactions, antibody functions

9. Graduate, survey courses in biochemistry,
   Topics: carbohydrate sturcture, analysis; glycoprotein and glycolipid stucture, functions and metabolism; lipopolysaccharide structure and synthesis; biological membranes; muscle structure
   protein structure
   protein - ligand binding

enzyme mechanisms
enzyme kinetics

10. Graduate, basic oncology, lectures on biologic membranes

11. Graduate, survey course in immunochemistry

12. Post-Graduate, lecture on inter-relationships of comple-
ment, fibrinolytic and kinin systems

LECTURES, MEDICAL BIOCHEMISTRY

1. Glycogen metabolism and regulation
2. Structural complementarily, amplification of metabolic response, disorders in glycogen metabolism
3. Galactose, glucuronic acid metabolism, mucopolysaccha-rides, saccharide interconversions, hexose monophosphate shunt
4. Post-ribosomal modification of proteins, protein polymorphisims and disease consequences
5. Fatty acid synthesis and degradation
6. Lipid structure and function
7. Phospholipid structure and function

BASIC ONCOLOGY:

1. Structural features of biologic membranes
2. Tumor cell membranes, tumor-associated antigens

GRADUATE BIOCHEMISTRY:

1. Stereochemistry of carbohydrates
2. Conformations of carbohydrates
3. Chemical reactivity and conformation
4. Methodology for structural determinations of carbohydrate sequences
5. Types and characteristics of complex carbohydrates
6. Methods applied to analysis of complex carbohydrates
7. Synthesis of complex carbohydrates
8. Functions of complex carbohydrates
9. Proteins - primary and secondary structure
10. Proteins - Tertiary and quaternary structure
11. Protein-protein and protein-ligand interactions
12. Proteins - structural predictions
13. Enzyme kinetics
14. Enzyme mechanisms
15. Enzymes - Types and regulation

16. Membrane structure and function
17. DNA and RNA structures
18. Principles that determine polynucleotide structure
19. Protein - polynucleotide interactions

LECTURES, DENTAL BIOCHEMISTRY

1. Glycogen metabolism and regulation of blood glucose
2. Structure and function of phospholipids, membrane structure
3. Fatty acid synthesis and degradation
4. Interrelationships and regulation of metabolic pathways

IMMUNOCHEMISTRY:

1. Heterogeneity of the antibody response; classes, subclasses, allo- and idiotypes of Igs

2. Structural features of Igs; discussion of homologies and deduction of structure from amino acid sequence data

3. Effector functions of the Igs

4. Three dimensional structure of Igs and quaternary interactions of domains

5. Antibody combining site constructs

6. Antibody combining site interactions with haptens; serologic specificities

7. Measurement, interpretation and quantitations of antibody-antigen interactions

8. Kinetic analyses of antibody-hapten interactions

9. Radio- and enzyme-immunoassays

10. Parameters of antigenicity and immunogenicity

CANCER PHARMACOLOGY:

1. Progression and selection of tumor cell populations; changes in cell surface composition and interactions with metastases

2. Tumor-associated antigens

RESIDENT AND STAFF LECTURES:

Otolaryngology: lectures on overview of tumor immunology

Rheumatology:

1. Synovial cell metabolism and antigen, genetic analysis of antigen expression

2. Protein Polymorphisms: types, effects on protein function, contribution to disease processes

Subjects taught in Medical Biochemistry Laboratory:

1. Principles and methods of automated analyses

2. Acid-base regulation and imbalances

3. Statistical methods and analyses of clinical data

4. Dietary calculations of protein, carbohydrate, lipid, caloric intake and nitrogen balance

5. Presentations, analysis, critique of primary clinical and basic research papers

Current Teaching:

Lectures in graduate biochemistry: Characterizations

of proteins, protein secondary, tertiary and quaternary structures, predictions of protein and peptide structures, binding site interactions of proteins with various ligands, structures of polynucleotides, chemistry, stereochemistry and conformations of carbohydrates, structural types of complex carbohydrates, complex carbohydrate biosynthesis, functions of complex carbohydrates.

Lectures in medical and dental biochemistry: on carbohydrate, lipid and phospholipid structure and function, glycogen metabolism and regulation of blood glucose, fatty acid synthesis and degradation, and integration and regulation of carbohydrate and lipid metabolism.

Graduate Thesis Studies

Abstract: Kundig, W., Kundig, F. Dodyk, Anderson, B. and Roseman, S., "Galactose-6-Phosphate Synthesis by a Phosphotransferase System," Fed. Proc., 24, 658, 1965.

Kundig, W., Kundig, F. Dodyk, Anderson, B. and Roseman, S., "Restoration of Transport of Glycosides in Escherichia coli by a Component of a Phosphotransferase System," J. Biol. Chem., 241, 3243-3245, 1966.

Simoni, R.D., Levinthal, M., Kundig, F.D., Kundig, W., Anderson, B., Hartman, P.E. and Roseman, S., "Genetic Evidence for the Role of a Bacterial Phosphotransferase System in Sugar Transport," Proc. Nat. Acad. Sci., 58, 1963-1970, 1967.

Abstract: Anderson, B., Kundig, W., Simoni, R. and Roseman, S., "Further Studies on Carbohydrate Permeases," Fed. Proc., 27, 643, 1968.

Anderson, B., Weigel, N., Kundig, W. and Roseman, S., "Purification and Properties of the Phospho-Carrier Protein Intermediate of the Carbohydrate Phosphotransferase System of Escherichia coli,", J. Biol. Chem., 246, 7023-7033, 1971.

Postdoctoral Studies

Etzler, M.E., Anderson, B., Beychok, S., Gruezo, F., Lloyd, K.O., Richardson, N.G. and Kabat, E.A., "Oligosaccharides Isolated after Hydrolysis of Hog Mucin Blood Group A+H Substance Previously Treated with the Blood Group A De-N-Acetylating Enzyme. Arch. Biochem. Biophys., 141, 588-601, 1970.

Feizi, T., Kabat, E.A., Vicari, G., Anderson, R. and Marsh, W.L., "The I Antigen Complex-Precursors in the A, B, Le^a I and Le^b Blood Group System, Hemagglutination Inhibition Studies," J. Exp. Med., 133, 39-52, 1971.

Feizi, T., Kabat, E.A., Vicari, G., Anderson, B. and Marsh, W.L., "The I Antigen Complex - Specificity Differences Among Anti-I Sera Revealed by Quantitative Precipitin Studies; Partial Structure of the I Determinant Specific for One Anti-I Serum," J. Immunol., 106, 15789-1592, 1971.

Anderson, B., Kabat, E.A., Beychok, S. and Gruezo, F., "Structures of Oligosaccharides Obtained by Mild Acid Hydrolysis of Human Ovarian Cyst Blood Group A Substance," Arch. Biochem. Biophys., 145, 489-504, 1971.

Anderson, B., Rovis, L. and Kabat, E.A., "A Study of Various Conditions of Alkaline Borohydride Degradation on Human and Hog Blood Group Substances and on Known Oligosaccharides" Arch. Biochem. Biophys., 148, 304-314, 1972.

Rovis, L., Anderson, B., Kabat, E.A., Gruezo, F. and Liao, J., "Heterogeneity of Carbohydrate Fragments Isolated from Human Blood Group H and Le^a Active Glycoproteins by Base-Borohydride Degradation," Biochemistry, 12, 1955-1961, 1973.

Rovis, L., Anderson, B., Kabat, E.A., Gruezo, F. and Liao, J., "Structures of Oligosaccharides Produced by Base-Borohydride Degradation of Human H, Le^b and Le^a Active Glycoproteins," Biochemistry, 12, 5340-5354, 1973.

Rovis, L., Anderson, B. and Kabat, E.A., "Immunochemical Studies on Blood Group A, B, H, Le^a and Le^b and Precursor I Substances," in Methodologie de la Structure et du

Metabolism des Glycoconjuges, 645-650, 1974.

Enzyme Kinetic Studies

Abstract: Anderson, R. and Czerlinski, G., "Enzyme Amplification for the Detection of Very Low Levels of Substrate Concentration," Biophysical Society, San Francisco, CA, Feb., 1986.

Abstract: Czerlinski, G.H. and Anderson, B., "Metabolic Amplification Systems," FASEB J., 2, A550, 1988.

Czerlinski, G.H., Anderson, B., Tow, J. and Reid, D.S., "Coupling of Redox Indicator Dyes into an Enzymatic Reaction Cycle," J. Biochem. Biophys. Methods, 15, 241-248, 1988.

Czerlinski, G., and Anderson, B., "Metabolic Amplification: Analysis of the Kinetic Detection of Low Substrate Levels". J. Theoretical Biology, 139, 187-200, 1989.

Connective Tissue Activating Protein

Castor, C.W., Ritchie, J.C., Williams, C.H., Scott, M.E., Whitney, S.L., Sloan, T.B. and Anderson, B., "Connective Tissue Activation. XIV. Composition and Actions of a Human Platelet Autacoid Mediator," Arth. Rheum., 22, 260-272, 1979.

Abstract: Weiss, J.J., Sloan, T.B., Castor, C.W. and Anderson, B., "Detection of Platelet-Derived CTAP-III in Biologic Specimens," Mid-West Immunology Conference, 1979.

Abstract: Myers, S., Castor, C.W. and Anderson, B., "Measurement of CTAP-III Levels by RIA in Normal and Rheumatoid Plasma," Clin. Res., 27, 646A, 1979.

Sloan, T.B., Weiss, J.J., Anderson, B., Ritchie, J.C., Whitney, S.L. and Castor, C.W., "Connective Tissue Activation. XVI. Detection of a Human Platelet Derived Connective Tissue Activating Peptide (CTAP-III) in Human Sera and Plasma and in Synovial Fluids and Tissues," Proc. Soc. Exp. Biol. Med., 164, 267-274, 1980.

Weiss, J.J., Myers, S., Castor, C.W., Donakowski, C. and Anderson, B., "Radioimmunoassay of a Human Platelet Derived Connective Tissue Activating Peptide (CTAP-III) and Specificities of Anti-CTAP-III Sera," Clin. Chim. Acta.,108, 425-433, 1980.

Abstract: Davis, L.E., Castor, C.W., Tinney, F.J. and Anderson, B., "Preparation and Characterization of Antisera to the Amino-Terminal Tetrapeptide of the Platelet Derived Connective Tissue Activation Peptide (CTAP-III), Fed. Proc., 42, 1298, 1983.

Abstract: Davis, L.E., Castor, C.W., Tinney, F.J. and Anderson, B., "Preparation of a Synthetic Tetrapeptide Immunogen of a Platelet Derived Connective Tissue Activating Peptide," Fed. Proc., 43, 1874, 1983.

Abstract: Davis, L.E., Castor, C.W., Tinney, F.J. and Anderson, B., "Cross-Reactivity of Anti-Synthetic Tetrapeptide Sera to a Connective Tissue Mitogen," Mid-West Immunology Meetings, Nov., 1983.

Davis, L.E., Castor, C.W., Tinney, F.J. and Anderson, B., "Characterization of Antibodies Specific to the Amino-

Terminal Tetrapeptide Sequence of a Platelet Derived Connective Tissue Activating Peptide." Biochem. Int., 10, 395-405, 1985.

Connective Tissue Activating Protein - continued

Erickson, J., Davis, L.E., Castor, C.W., Walz, D.A. and Anderson, B.E., "Structural Comparison of Connective Tissue Activating Peptide-III and Beta-Thromboglobulin by Circular Dichroism and Structural Prediction Methods," FASEB J., 2, A1336, 1988.

Erickson, J., Davis, L.E., Castor, C.W., Walz, D.A. and Anderson, B.E., "A Possible Receptor Binding Function for the N-Terminus of Connective Tissue Activating Peptide-III," Biochemistry, 29, 4077-4080, 1990.

I Blood Group Antigens

Dube, V.E. and Anderson, B., "Expressions of I Antigen and Anti-I Cold Agglutinins in Sera of Patients with Possible Precancerous Breast Lesions," in Carcino-Embryonic Proteins, Chemistry, Biology, Clinical Applications, Vol. ii, F.-G. Lehman, Ed., Elsevier, North Holland Biomedical Press, Amsterdam, New York, Oxford, pp. 905-908, 1979.

Abstract: Dube, V.E. and Anderson, B., "Purification of I-Antigenic Glycoprotein from Ovarian Cyst Fluid", American Chemical Society Meetings, Chicago, August, 1980.

Abstract: Anderson, B., Dube, V.E., Iwaki, Y. and Terasaki, P., "Anti-I Active Cold Agglutinins and B-Cell Lymphocytotoxins in Breast Cancer Sera,"Int.Soc. Oncodevel. Biol. Med., Sept., 1981.

Abstract: Dube, V.E., Rohr, T. and Anderson, B., "Enzyme Immunoassay for I Antigens," Tri-State Blood Bank Meetings, May, 1982.

Abstract: Dube, V.E., Tanaka, M., Chmiel, J. and Anderson, B., "Influence of ABO Group Secretor Status and Sex of Normal Individuals on Cold Hemagglutinins," Tri-State Blood Bank Meetings, May 1982.

Abstract: Tanaka, M., Anderson, B. and Dube, V.E., "A New I-Active Sequence in Oligosaccharides of Ovarian Cyst Glycoprotein," Society for Complex Carbohydrates, Sept., 1982.

Dube, V.E., Kallio, P., Tanaka, M. and Anderson, B., "Structures and I-Blood Group Activities of Oligosaccharides Isolated from an Ovarian Cyst Glycoprotein," Biochem. Biophys. Acta., 798, 283-290, 1984.

Dube, V.E., Haid, M., Chmiel, J. and Anderson, B., "Serum Anti-I Cold Agglutinin Activities and IgM levels in Sera of Breast Carcinoma," Breast Cancer Res. Treatment 4, 105-108, 1984.

Dube, V.E., Tanaka, M., Chmiel, J. and Anderson, B., "Effect of ABO Group, Secretor Status and Sex on Cold Agglutinins in Normal Adults," Vox. Sang., 46, 75-79, 1984.

Dube, V.E., Kallio, P., Tanaka, M. and Anderson, B., "Characterization of Two Anti-I Specificities by a Solid Phase Enzyme Immunoassay," XII International Carbohydrate Symposium, Utrecht, July, 1985.

Fibronectin Studies

Abstract: Schmid, F.R., Wood, G.W. and Anderson, B., "Plasma Fibronectin in Cryoprecipitates; Possible Association with Immunoglobulins and/or Clq." Clin. Res., 27, 694A, 1979.

Iammartino., A., Schmid, F.R., Donakowski, C. and Anderson B. "Fibronectin is a Component of Serum Cryoglobulins and Synovial Fluid Cryoproteins - Possible Association with Immunoglobulins," Arth. Rheum., 23, 694, 1980.

Wood, G.W., Rucker, M., Davis, J.W., Entwistle, R. and Anderson, B., "Interaction of Plasma Fibronectin with Selected Cryoglobulins," Clin. Exp. Immunol., 40, 358-364, 1980.

Abstract: Glasser, T., Cohen, I., Potter, E.V., Entwistle, R., Davis, L., Chediak, J. and Anderson, B., "Fibronectin in von Willebrand's Disease and Thrombasthenia - Role in Platelet Aggregation," Fed. Proc., 39, 839, 1980.

Anderson, B., Rucker, M., Entwistle, R., Schmid, F.R. and Wood, G.W., "Plasma Fibronectin is a Component of Cryoglobulins from Patients with Connective Tissue and other Diseases," Ann. Rheum. Dis., 40, 50-54, 1981.

Cohen, I., Potter, E.V., Glasser, T., Entwistle, R., Davis, L., Chediak, J. and Anderson, B., "Fibronectin in von Willebrandt's Disease and Thrombasthenia, Role in Platelet Aggregation," J. Lab. Clin. Med., 97, 134-140, 1981.

Abstract: Harris, C., Roth S.A., Schmid, F.R. and Anderson, B., "Binding of Fibronectin to Clq; Inhibition of Binding by Aggregated IgG," Clin. Res., 29, 782A, 1981.

Anderson, R., Entwistle, R., Puyat, L., Davis, L.E. and Schmid, F.R., "Fibronectin Associated with Clq in a Clq Isolation Procedure," Immunol. Comm., 10, 687-696, 1981.

Abstract: Anderson, B., Entwistle, R., Harris, C., Roth,

S. and Schmid, F.R., "Binding of Fibronectin to Clq and Inhibition of Binding by Aggregated IgG", Fed. Proc., 41, 847, 1982.

Abstract: Harris, C.A., Entwistle, R., Schmid, F.R. and Anderson, B., "Binding Interactions of Fibronectin and Aggregated IgG to Solid-Phase Clq". Arth. Rheum., 25, 875, 1982.

Fibronectin Studies - continued

Harris, C., Roth, S., Schmid, F.R. and Anderson, B., "Binding of Fibronectin to Clq; Inhibition of Binding by Aggregated IgG," Immunol. Comm., 10, 601-609, 1981.

Steffes, M.L., Iammartino, A.J., Schmid, F.R., Castor, C.W., Davis, L.E., Entwistle, R. and Anderson, B., "Fibronectin in Rheumatoid Arthritic (RA) and Non-RA Synovial Fluids and Synovial Fluid Cryoproteins," Ann. Clin. Lab. Sci., 12, 178-185, 1982.

Abstract: Entwistle, R.,Liu, W., Schmid, F.R., Ulrich, J.T. and Anderson, B., "Use of Peroxidase - Anti-Peroxidase (PAP) Complexes in a Solid-Phase Clq (SP-Clq) Immune Complex Assay," Fed. Proc., 42, 932, 1983.

Abstract: Entwistle, R. Schmid, F.R. and Anderson, B., "Studies on the Interaction of Fibronectin with Clq", Mid-West Immunology Meetings, Nov., 1983.

Abstract: Entwistle, R.A., Kang, A. and Anderson, B., "Multiple Binding Equilibria for Fibronectin and Low Concentration Solid Phase Clq", Fed. Proc., 44, 1076, 1985.

Abstract: Gustafson, C., Weiss, J.J., Schmid, F.R., Entiwstle, R.A., Kang, A. and Anderson, B., "Solid Phase-Immune Complex (SP-IC) Binding of Clq, and Fibronectin (FN) Binding to SP-Clq," Arth. Rheum., 28, S58, 1985.

Abstract: Weiss, J.J., Gustafson, C., Schmid, F.R. and Anderson, B., "Fibronectin Interaction with Clq Bound to Solid Phase Immune Complexes," Fed. Proc., 45, 263, 1986.

Abstract: Weiss, J.J., Gustafson C., Schmid, F.R. and Anderson, B., "Fibronectin Interaction with Clq Bound to Solid Phase Immune Complexes," Arth. Rheum., 29, S73, 1986.

Entwistle, R.E., Kang, A., Schmid, F.R. and Anderson, B., "Kline-tics and Stoichiometry of the Binding of Fibronectin to Solid Phase Clq." in review, JBC.

Anderson, B., Entwistle, R.A., Weiss, J.J. and Schmid, F.R., "Fibronectin Interaction with Complement Proteins - Characteristics of the Binding Interactions and Potential Biologic Significance," in Fibronectin in Health and Disease, Carsons, S.E., ed., CRC Press, Inc., Boca Raton, p. 68-88, 1989.

Protein Structure and Binding Studies

Abstract: Baumann, M.A. and Anderson, B.E., "Detection of Carbohydrate Binding Motifs in Proteins," First Int. Protein Symp., San Diego, CA, August, 1987.

Abstract: Baumann, M.A. and Anderson, B.E., "The Prediction of Carbohydrate Binding Motifs on Proteins," Midwest Immunology Symposium, Chicago, IL Nov., 1987.

Abstract: Radvany, M.G., Davis, L.E. and Anderson, B.E., "STRUCTURE - A Pascal Package for the Analysis of Amino Acid Sequences on IBM-PC Compatible Computers," Midwest Immunology Symposium, Chicago, IL, Nov., 1987.

Abstract: Baumann, M.A. and Anderson, B.E., "Detection of Carbohydrate Binding Motifs in Proteins," AAAS Annual Meeting, Boston, MA, Feb., 1988.

Abstract: Radvany, M., Davis, L.E. and Anderson, B.E., "STRUCTURE - A Pascal Package for Analysis of Protein Structural Characteristics from Amino Acid Sequences," FASEB J., 2, A1766, 1988.

Baumann, M. and Anderson, B.E., "A Method for Identifying a Proposed Carbohydrate-Binding Motif of Proteins," Glycobiology, 1, 537-542, 1991.

Baumann, M.A. and Anderson, B.E., "An Immune Complex Selective Affinity Matrix Utilizing a Synthetic Peptide," J. Biol. Chem., 265, 18414-18422, 1990.

Baumann, M. and Anderson, B., "Selective Immune Complex

Removal from Human Serum Simples Using an Affinity Matrix," Submitted to Arth. Rheum.

Anderson, B., Baumann, M. and Potempa, L., "A Clq Peptide and a Modified Form of C-Reactive Protein (mCRP) that Bind Immune Complexes," J. Cellular Biochem., 15G, 170, 1991.

Baumann, M. and Anderson, B., "An Immune Complex Binding Peptide Based on an α-Helical Segment of the Complement Protein Clq.," FASEB J., 5, A733, 1991.

Protein Structure and Binding Studies - continued

Radvany, M.G., Davis, L.E. and Anderson, B. "STRUCTURE - A Pascal Package for Analysis of Amino Acid Sequences on IBM-PC Compatible Computers", Methods in Mol. & Cell. Biol., 2, 154-160, 1991.

Abstract: Anderson, B., "Design of Peptides With Binding Affinities To Proteins of Interest," International Society of Blood Purification, October 9, 1992, Louisville, KY.

Abstract: Anderson, B., "Design of Peptides with Binding Affinities to Proteins of Interest." Int. Soc. Blood Purification, Louisville, Oct., 1992.

Abstract: Worthington, L.F., Nevens, J.R., Clark, C.R. and Anderson, B.E.," A Synthetic Peptide that Binds Immune Complexes Selectively versus Monomeric IgG," Am. Peptide Symposium, Edmonton, June, 1993.

Abstract: Nevens, J.R., Worthington, K.F., Anderson, B.E. and Clark, C.R., "An Immobilized Synthetic Peptide for the Affinity Purification of Immune Complex," Am. Peptide Symposium, Edmonton, June, 1993.

Abstract: Worthington, K. and Anderson, B.E., "Characteristics of the Binding of a Peptide Derived from Clq to IgG", Am. Soc. Biochem. & Mol. Biol., May, 1995; FASEB J., 9, A1470, 1995.

Abstract: Fryer, J., Blondin, B., Stadler, C., Ratner, U., Ivanic, D., Buckingham, F., Abecassis, M., Kaufman, D., Stuart, F. and Anderson, B., "Complement Inhibition of Human Serum to Pig Endothelial Cells by a Peptide Derived from Clq," Am. Soc. Transplant Surg., May, 1996.

Abstract: Fryer, J., Blondin, B., Stadler, C., Ratner, U., Stuart, F. and Anderson, B., "Prolongation of Guinea Pig Heart to Rat Transplants by Complement Inhibitory Peptides," Int. Soc. Transplant Surg., May, 1996.

Rheumatoid Arthritis (RA-1) Parvovirus Studies

Abstract: Smith, C., Stierle, G., Dumonde, D., Godzeski, C., Simpson, R. and Anderson, B., "Antigenic Similarity of Parvovirus Isolates from Rheumatoid Patients in the U.S. and London, N.E. Regional American Rheumatism Association meetings, Nov., 1983.

Abstract: Smith, C., Stierle, G., Dumonde, D., Simpson, R., Godzeski, C. and Anderson, B., "Antigenic Similarity of Parvovirus Isolates from Rheumatoid Patients in the U.S. and London," Arth. Rheum., 27, S70, 1984.

Abstract: Smith, C., Craig, R. and Anderson, B., "Detection of Parvovirus Antigen in Cultured Rheumatoid Synovial Cells," Arth. Rheum., 29, S47, 1986.

Abstract: Bishop, D., Lovell, L., Davis, L., Smith, C. and Anderson, B., "Virus-Like Particles in Tissues of Mice Injected with RA-1 Parvovirus Preparations," Fed. Proc., 46, 1513, 1987.

Abstract: Lenci, M.M., Smith, C. and Anderson, B., "Reactivity of Human Synovial Cells with Antiserum to Parvovirus RA-1," Arth. Rheum., 30, 5114, 1987.

Bishop, D., Horoupian, D., Janis, R., Simpson, R., Anderson, B. and Smith, C., "Pathology and Tissue Localization of Virus Particles in Newborn and Adult Mice Following Infection with the Human Parovirus RA-1", Submitted to Lab. Invest.

Synovial Cells, Tissues and Fluids

Abstract: Anderson, B., Martincic, R., Jameson, A., Hanson, L. and Steffes, M., "Antigenic Reactivities of Anti-Rheumatoid Arthritic (RA) Synovial Fibroblast Sera," Fed. Proc., 35, 1976.

Abstract: Steffes, M.L., Jameson, A., Martincic, R.R., Hanson, L., Schmid, F.R. and Castor, C.W., "Characteristics of an Antigen Reactivity in Synovial Fluids and its Association with Rheumatoid Arthritis," Fed. Proc., 36, 1064, 1977.

Abstract: Jameson, A., Steffes, M.L., Martincic, R.R., Hanson, L., Schmid, F.R., Castor, C.W. and Anderson, B. "Characteristics of an Antigen Reactivity in Synovial Fluids and Its Association with Rheumatoid Arthritis," Fed. Proc., 36, 1064, 1977.

Sloan, T.B., Martincic, R.R. and Anderson, B., "Synovial Cell Antigens. Production of Heterologous Anti-Human Synovial Cell Sera and General Reactivities of the Antisera," Exp. Cell. Biol., 49, 20-33, 1981.

Sloan, T.B., Martincic, R.R. and Anderson, R., "Differences of Antigen Composition of Rheumatoid Arthritic (RA) and Non-RA Derived Tissue Cultured Synovial Cells as Detected by Monkey Anti-RA Synovial Cell Sera," J. Rheumatol. 8, 204-213, 1981.

Sloan, T.B., Martincic, R.R. and Anderson, B., "Synovial Cell Antigens - Differences of Antigen Compositions Between Rheumatoid Arthritic (RA) and Non-RA Derived Synovial Cells Detected with Anti-Synovial Cell Sera," Exp. Cell Biol., 49, 195-206, 1981.

Steffes, M.L., Iammartino, A.J., Schmid, F.R., Castor, C.W., Davis, L.E., Entwistle, R. and Anderson, B., "Fibronectin in Rheumatoid Arthritic (RA) and Non-RA Synovial Fluids and Synovial Fluid Cryoproteins," Ann. Clin. Lab. Sci., 12, 178-185, 1982.

Carbohydrate Sequence Epitopes and Anti-Carbohydrate Specificities

Anderas, P., Paul, D.P., Tomita, J.T. and Anderson, B., "Preparation and Specificities of Antisera to B1-4 Linked N-Acetyl-D-Glucosamine Oligosaccharides," Mol. Immunol., 16, 341-345, 1979.

Abstract: Rohr, T., Tribby, I., Dube, V.E. and Anderson, B., "Production of Mouse Monoclonal Antibodies to Blood Group Active Oligosaccharides," Fed. Proc., 42, 431, 1983.

Abstract: Lee, Y.C., Mahklouf, S.E., Entwistle, R. and Anderson, B., "Characterization of Antibody Reactivities to Galactose Cluster Ligands," Fed. Proc., 42, 933, 1983.

Abstract: Makhlouf, S.E., Davis, L.E. and Anderson, B., "Specificities of Antisera to (GlcNβ1β4)n oligosaccharide Sequences," Fed. Proc., 42, 933, 1983.

Abstract: Rohr, T., Tribby, I., Dube, V.E. and Anderson, B., "Mouse Monoclonal Antibodies to Blood Group Active Oligosaccharides Isolated from Human Breast Milk," Fed. Proc., 42, 2102, 1983.

Abstract: Rohr, T., Tribby, I., Dube, V.E. and Anderson, B., "Monoclonal Antibody Specificities to the N2-oligosaccharide," Soc. Complex Carbohydrates, Oct., 1983.

Abstract: Mahklouf, S., Davis, L.E. and Anderson, B., "Specificity and Binding Site Size of Anti-(GlcNAc)n Antibodies," Soc. Complex Carbohydrates, Oct., 1983.

Abstract: Mahklouf, S., Lee, Y.C., Entwistle, R. and Anderson, B., "Antibodies Reactive with Branched Galactosyl-Residues," Mid-West Immunology Meetings, Nov., 1983.

Abstract: Roa, R.B., Baumann, M., Davis, L.E., Nilsson, L., Dahmen, J. and Anderson, B., "Monoclonal Antibody

Specificities to the Blood group P_1 and P^k Carbohydrate Sequences," Fed. Proc., 45, 720, 1986.

Carbohydrate Sequence Epitopes and Anti-Carbohydrate Specificities -continued

Mahklouf, S.E., Davis, L.E., Paul, D. and Anderson, B., "Immunochemical Characterization of Antisera Reactivities to N-Acetyl-D-Glucosamine Oligosaccharides of β1-4 Glycoside Linkage,"Glycoconj. J., 3, 351-362, 1986.

Abstract: Venegas, M., Schaeffer, A., Navas, E. and Anderson, B., "Detection and Quantitation of Blood Group Antigens in Human Buccal and Vaginal Mucous Glycoproteins," FASEB J., 5, A458, 1991.

Baumann, M.A. and Anderson, B., "A Proposed Carbohydrate Binding Motif in Proteins," Glycobiol., 1, 537-542, 1992.

Tumor-Associated Immunoglobulins

Popovic, D., Gill, L., Sisson, G., Applebaum, E. and Anderson, B., "Detection and Localization of Tumor-Associated Immune Components of Head and Neck Squamous Cell Carcinomas," Trans. Am. Acad. Opth. Otol., 82, 119-130, 1976.

Koneval, T., Applebaum, E., Popovic, D., Gill, L., Sisson, G., Wood, G.W. and Anderson, B., "Demonstration of the Presence of Tumor and Marginal Tissue Associated Immunoglobulin of Squamous Cell Carcinomas of the Head and Neck," J. Natl. Cancer Inst., 59, 1089-1097, 1977.

Abstract: Gill, L. and Anderson, B., "Characterization of the Reaction of Anti-Tumor Cell Antibody with Tumor Cells in Vitro," Fed. Proc., 36, 1255, 1977.

Abstract: Pankow, M.L., Davis, L.E. and Anderson, B., "Utilization of Dextran and Post-Primary Antibody Fixation in the Immunoperoxidase Staining of Immunoglobulin Associated with Squamous Carcinoma of the Head and Neck," Fed. Proc., 42, 932, 1983.

Abstract: Pankow, M., Davis, L.E. and Anderson, B. "Immunocytochemical Localization of Immunoglobulin in Squamous Carcinoma Tissues," Mid-West Immunology Meetings, November, 1983.

Abstract: Pankow, M.L., Davis, L.E., Becker, S.P., Ossoff, R.H. and Anderson, B., "Use of Dextran and Post-Primary Antibody Fixation in Immunoperoxidase Staining of Fresh Frozen Tissue -Detection of Immunoglobulin Associated with Squamous Carcinomas of the Head and Neck," J. Histochem. Cytochem., 32, 771-779, 1984.

Abstract: Davis, L.E., Reddy, G. and Anderson, B., "Quantitation and Antibody Specificities of Immunoglobulins (Ig) Associated with Squamous Carcinoma of the Head and Neck using Enzyme Amplification Immunoassay (EAI)," Fed. Proc., 45, 718, 1986.

Anderson, B., Davis, L.E. and Venegas, M., "Tumor-Associated Blood Group Antigen Expressions and Immunoglobulins Associated with Tumors," The Molecular Immunology of Complex Carbohydrates, Advances in Experimental Medicine and Biology, Vol. 228, A. Wu, Editor,

Plenum Press, New York, 1986, pp. 601-656.

Tumor Antigens and Epitopes

Anderson, B., Jameson, A., Hirata, A.A., Safford, J.S. and Tomita, J.T., "Carcinoembryonic Antigen - Identification of a Tri-N-Acetylchitotriosyl Type Structure as an Immunodeterminant Group", Immunochemistry, 12, 577-580, 1975.

Paul, D., Flouret, G., Tomita, J.T., Ranney, K., Schenck, J. and Anderson, B., "Preparation and Specificities of Antisera to the Amino-Terminal Sequence of the Carcinoembryonic Antigen," Cancer Res., 41, 2315-2321, 1981.

Abstract: Davis, L.E., Pankow, M.L., Sobut, R., Keesara, S. and Anderson, B., "Blood Group Antigen Expression by Normal and Squamous Carcinoma Epithelial," Fed. Proc., 43, 1751, 1984.

Abstract: Anderson, B., Davis, L.E., Pankow, M.L., Mahklouf, S., Brown, J.C. and Patel, R., "Blood Group Antigen Expression by Normal and Squamous Carcinoma Epithelia; and Monoclonal Antibodies to BDGal-4BDGlcNAc1-R Sequence which Distinguish Between N- and O-Linked Glycoproteins," XII International Carbohydrate Symposium, Utrecht, July, 1984.

Abstract: Davis, L.E., Barnes, A., Sobut, R. and Anderson, B., "Detection of Blood Group Antigens and Immunoglobulin in Squamous Carcinoma Tissues," Soc. Complex Carbohydrates, Oct., 1984.

Abstract: Davis, L.E., Lyons, P., Barnes, A. and Anderson, B., "Expression of Blood Group Antigens and Immunoglobulins by Head and Neck Squamous Carcinoma Tissues," J. Cellular Biochem., suppl. 9A, 40, 1985.

Abstract: Davis, L.E., Venegas, M., Lovell, L. and Anderson, B., "Head and Neck Squamous Carcinoma Tissue Expression of Blood Group Antigens and Immunoglobulins," VIII International Symposium on Glycoconjugates, Houston, TX, Sept., 1985.

Abstract: Venegas, M., Lovell, L., Davis, L.E., Anderson,

B., Wilbanks, T., Hass, G.M., Manderino, G. and Rittenhouse, H., "Purification of Ascitic Fluid Mucins Containing Tumor-Associated Oligosaccharide Sequence Epitopes," VIII International Symposium on Glycoconjugates, Houston TX, Sept., 1985.

Tumor Antigens and Epitopes - continued

Abstract: Anderson, B., Davis, L.E. and Venegas, M., "Tumor-Associated Blood Group Antigen Expressions and Immunoglobulins Associated with Tumors," Molecular Immunology of Complex Carbohydrates, College Station, Texas, Sept., 1985.

Abstract: Venegas, M., Lovell, L., Davis, L.E., Anderson, B., Wilbanks, T., Hass, G.M., Manderino, G. and Rittenhouse, H., "Isolation, Purification and Immunochemical Studies of Tumor-Associated Antigen Markers of Ascitic Fluid Glycoproteins," Royal Society of Chemistry-Carbohydrate Group Meeting, Sheffield, England, U.K., April, 1986.

Abstract: Venegas, M., Lovell, L., Davis, L.E., Anderson, B., Wilbanks, T., Hass, G.M., Manderino, G. and Rittenhouse, H., "Purification of Ascitic Fluid Glycoproteins Containing Certain Tumor-Associated Antigen Markers," Fed. Proc., 45, 984, 1986.

Abstract: Anderson, B., Slota, J., Kundu, S., Patrick, J., Manderino, G., Rittenhouse, H. and Tomita, J., "Characterization of Monoclonal Antibodies to Paragloboside (PG) and Sialosyl-PG (2,6-SPG), and an Improved Chromatogram Binding Assay for Rapidly Identifying Antibodies to Tumor Antigens," J. Cellular Biochem., 157, 1987.

Venegas, M., Shaw, S., Lovell, L., Davis, L.E., Anderson, B., Wilbanks, T., Hass, K., Manderino, G. and Rittenhouse, H., "Purification and Immunochemical Characterization of Ascitic Fluid Glycoproteins Containing Certain Tumor-Associated and Blood Group Antigen Markers," Glycoconj. J., 6, 511-524, 1989.

Anderson, B. E. and Davis, L. E.,"Method of Detecting Cancer'" US Patent - 5376531. December 27, 1994. Official Gazette of the US Patent and Trademark Office Patents 1169

(4 Dec. 27). 1994.2420.

Serum Amyloid P-Component (SAP) Studies

Abstract: Kubak, R., Potempa, L.A., Mahklouf, S., Venegas, M., Gewurz, H. and Anderson, B., "Serum Amyloid P-Component Calcium-Dependent Binding to Glycoproteins, Glycoconjugates and Yeast Extracts," Soc. Complex Carbohydrates, Oct., 1984.

Abstract: Kubak, R., Potempa, L.A., Mahklouf, S., Venegas, M., Anderson, B. and Gewurz, H., "Mannose and Anionic Polysaccharides as Ligands for the Serum Amyloid P Component," Fed. Proc., 44, 1189, 1985.

Abstract: Venegas, M., Kubak, B.M., Potempa, L.A., Gewurz, A., Anderson, B. and Gewurz, H., "Binding of Serum Amyloid P-Component (SAP) to Mannans and Glycoproteins," XXXIV Colloquium on Protides of the Biological Fluids, Brussels, Belgium, May, 1986.

Kubak, B.M., Potempa, L.A., Gewurz, A., Slodki, M.E., Venegas, M., Anderson, B. and Gewurz, H., "Binding of Serum Amyloid P-Component (SAP) to soluble Saccharomyces cerevisiae Zymosan Extract, and Yeast Mannans and Phosphomannans," in Protides of Biological Fluids (H. Peters, ed.) 34, 391-395, 1986.

Kubak, B.M., Potempa, L.A., Anderson, B., Makhlouf, S., Venegas, M., Gewurz, H. and Gewurz, A.T., "Evidence that Serum Amyloid P Component Binds to Mannose Terminated Sequences of Polysaccharides and Glycoproteins," Mol. Immunol., 25, 851-858, 1988.

Abstract: Brown, M.R. and Anderson, B., "Human Serum Amyloid P Component (SAP) Exhibits Selective Binding of Heat or Alkali Aggregated versus Monomeric Immunoglobulin G, "FASEB J., 5, A1636, 1991.

Brown, M.R., and Anderson, B.E., "Receptor-Ligand Interactions Between Serum Amyloid P Component and Model Soluble Immune Complexes", J. Immunology, 151, 2087-2095, 1993.

C-Reactive Protein (CRP) Studies

Abstract: Gewurz, H., Siegel, J.N., Zeller, J.M., Landay, A.L., Chudwin, D., Fiedel, R.A., Mold, C., Anderson, B. and Potempa, L.A., "Ligands and Biological Reactivities of C-Reactive Protein (CRP) and Serum Amyloid P-Component (SAP)," XXXIV Colloquium on Protides of the Biological Fluids, Brussels, Belgium, May, 1986.

Abstract: Potempa, L.A. and Anderson, B., "Selective Adsorption of Immunoglobulin G on Affinity Matraces Containing a Modified Form of Human C-Reactive Protein," Int. Congress on Membranes and Membrane Processes, Chicago, August, 1990.

Abstract: Potempa, L.A., Motie, M., Klein, E., Anderson, B. and Baurmeister, U., "Conjugation of Modified Forms of C-Reactive Protein to Affinity Membranes for Extracorporeal Adsorption," Eurbiomat Workshop on Biologically Modified Biomaterial Surfaces, Antalya, Turkey, June, 1991.

Abstract: Potempa, L.A., Motie, M., Klein, E. and Anderson, B., "Affinity Membranes for the Removal of Immune Complexes," Int. Soc. Artificial Organs, Montreal, August, 1991.

Abstract: Kresl, J., Potempa, L. and Anderson, B., "Irreversible Conversion of Native Oligomeric to Modified Form(s) of Human C-Reactive Protein", FASEB J., 5, A633, 1991.

Abstract: Shields, M.J. and Anderson B., "An Enzyme-Linked Immunosorbent Assay (ELISA) for a Modified Form of Human C-Reactive Protein," FASEB J., 5, A633, 1991.

Abstract: Anderson, B., Siegel, J.N., Clark, C.R., Hines, K.K., Potempa, L.A., Gewurz, H. and Shields, M., "Quantitation and Conformational Changes of Human C-Reactive Protein (CRP) and a Modified Form (M-CRP) Determined by Enzyme-Linked Immunosorbent (ELISA) and Enzyme-Linked Immunoflow (ELIFA) Assays," FASEB J., 5, A622, 1991.

Abstract: Kresl, J.J. and Anderson, B., "Denaturation/Dissociation and Renaturation/Reassociation of Human C-Reactive Protein (CRP): Irreversible Conversion, "Clin. Res., 39, 462A, 1991.

C-Reactive Protein (CRP) Studies - continued

Abstract: Potempa, L.A., Motie, M., Anderson, B., Klein, E. and Baurmeister, U., "Conjugation of Modified Forms of C-Reactive Protein to Affinity Membranes for Extracorporeal Adsorption," Eurobiomat Workshop on Biologically Modified Biomaterial Surfaces, Antalya, Turkey, June, 1991.

Shields, M.J., Siegel, J.N., Clark, C.R., Hines, K.K., Potempa, L.A., Gewurz, H. and Anderson, B., "An Appraisal of Polystyrene - (ELISA) and Nitrocellulose-based (ELIFA) Enzyme Immunoassay Systems Using Monoclonal Antibodies Reactive Toward Antigenically District Forms of Human C-Reactive Protein," J. Immunol. Methods, 141, 253-261, 1991.

Abstract: Potempa, L.A., Motie, M., Klein, E. and Anderson, B., "Affinity Membranes for Removal of Immune Complexes," Int. Soc. Artificial Organs, Montreal, August, 1991.

Abstract: Anderson, B., Baumann, M. and Potempa, L., "A Clq Peptide and a Modified Form of C-Reactive Protein (mCRP) that Bind Immune Complexes," J. Cellular Biochem., 15E, 170, 1991.

Potempa, L.A., Motie, M., Anderson, B., Klein, E., and Baurmeister, U. "Conjugation of a Modified Form of Human C-Reactive Protein to Affinity Membranes for Extracorporeal Adsorption," Clinical Materials, 11, 105-117, 1992.

Kresl, J.J., Potempa, L.A. and Anderson, B.E., "Conversion of Native Oligomeric to a Modified Monomeric Form of Human C-Reactive Protein," Int. J. Biochem & Cell Biol.,30, 1415 - 1426, 1998

Kresl, J.J., Potempa, L.A., Radosevich, J. and Anderson, B.E., "Inhibition of Tumor Growth and Metastases of a Breast Adenocarcinoma (EMT6) in Mice by a Modified Form of C-Reactive Protein," Tumor Biol., 20, 72 - 87, 1999.

Abstract: Potempa, L.A., Murphy, R., Radosevich, J.A., Anderson, B., Kresl, J.J. and Chan, B., "Biological activity and Clinical Safety of Human Modified C-Reactive Portein, a Active New Agent Against Cancer, Hong Kong Int. Cancer Conf.,m Oct., 1996.

Potempa, L. A. and Anderrson, B. E., "Binding of Immune Complexes by Modified Forms of C-reactive Protein'" US PATENT - 5593897, Jan. 14, 1997, Official Gazette of the US Patent & Trademark Office.

C-Reactive Protein (CRP) Studies - continued

Potempa,L. A., Kresl, J. J. and Anderson, B. E., "Methods of Imagining Cancer Cells Using Modified C-Rective Protein," US PATENT -5474904. December 12, 1995. Official Gazette of the US Patent & Traddemark Office 1181 (2 Dec. 12) 1005.1154.

Glycated-Hemoglobin Studies

Fujiwara, Y., Okamoto, H., Zanma, S., Kasai, Y., Chichibu, K., Matsuno, T., Niwa, M., Sugiura, M., Maruyama, S., Anderson, B., and Davis, L.E., "Immunoassay For Hemoglobin A_{1c} Measurement", RIA Study Meeting, November 14, 1992, Nagoya, Japan.

Davis, L.E., Jokinen, D., Turk, L., Radvany, M., Theophilos, A., Fitzsimons, E. and Anderson, B., "Immunoassays for Hemoglobin Alc Employing a Reductively Modified Antigen",

Davis, L. E. and Anderson, B. E.,"Immunoassay of Glycosylated Proteins Employing Antibody Directed to Reductively Glycosylated N-Terminal Amino Acids," US PATENT - 5484735. January 16, 1996. Official Gazette of the US patent & Trademark Office Patents 1182 (3 Jan. 16). 1996. 1854.

Bacterial Adhesion Studies

Abstract: Venegas, M., Schaeffer, A.J., Navas, E. and Anderson, B., "Detection and Quantitation of Blood Group Antigens in Human Buccal and Vaginal Mucous Glycoproteins," FASEB meeting, Atlanta, GA, April, FASEB J., 5, A458, 1991.

Abstract: Navas, E.L., Venegas, M.F., Duncan, J.L., Anderson, B.E., Chmiel, J.S. and Schaeffer, A.J., "Blood Group Antigen Expression by Buccal and Vaginal Cells and Mucins from Healthy Women," Am. Urological Assoc., Washingtron, D.C., May, 1992, J. Urology. 147, 394A, 1992.

Navas, E.L., Venegas, M.F., Duncan, J.L., Anderson, B.E., Chmiel, J.S. and Schaeffer, A.J. "Blood Group Antigen Expression on Vaginal and Buccal Epithelial Cells and Mucous in Secretor and Nonsecretor Women", J. Urology, 149, 1492-1498, 1993.

Abstract: Venegas, M., Gaffney, R., Navas, E., Duncan, J., Anderson, B. and Schaeffer, A., "Binding of Escherichia coli to Glycoconjugates from Buccal and Vaginal Mucous," Cambridge Healthtech Institute Meeting on Glycotechnology, San Francisco, May, 1993.

Abstract: Scaheffer, A.J., Navas, E.L., Venegas, M.F., Duncan, J.L., Anderson, B.E., Kanerva, C. and Chmiel, J.S., "Variation of Blood Group Antigen Expression on Epithelial Cells and Mucous from Women with and without History of Urinary Tract Infection," Am. Urological Assn. Meeting, San Antonio, May, 1993, J. Urology, 149, A778, 1993.

Navas, E.L., Venegas, M.F., Duncan, J.L., Anderson, B.E., Kanerva, C., Chmiel, J.S. and Schaeffer, A.J., "Blood Group Antigen Expression on Vaginal Cells and Mucous in Women with and without a History of Urinary Tract Infections," J. Urology., 152, 345-349, 1994.

Gaffney, R., Duncan, J.L., Anderson, B.E. and Schaeffer, A.J., "Effect of Lewis Blood Group Antigen Expression on Bacterial Adherence to COS-1 Cells," Infection and Immunity, 62, 3022-3026,1994.

Schaeffer, A.J., Navas, E.L., Venegas, M.F., Anderson, B.E., Kanerva, C., Chmiel, J.S. and Duncan, J.L., "Variation of Blood Group Antigen Expression on Vaginal Cells and Mucous in Secreter and Nonsecretor Women," J.

Urology, 152, 859-864, 1994.
Bacterial Adhesion Studies - continued

Abstract: Anderson, B., Venegas, M., Navas, E.L., Gaffney, R., Duncan, J. and Schaeffer, A., "Binding of Type 1 Piliated Escherichia coli to Vaginal Mucous," Glycobiology Meetings, Washington, D.C., February, 1994.

Abstract: Gaffney, R.A., Schaeffer, A.J., Anderson, B.E. and Duncan, J.L., "Effect of Lewis Blood Group Antigen Expression on Bacterial Adherence to COS-1 cells," Am. Urol. Assoc., Mtg., Feb., 1994.

Venegas, M.F., Navas, E.L., Gaffney, R.A., Duncan, J.L., Schaeffer, A.J. and Anderson, B.E. "Binding of Type 1 Piliated Escherichia coli to Vaginal Mucus," Infection and Immunity, 63, 416-422, 1995.

Gaffney, R.A., Venegas, M.F., Kanerva, C., Navas, E.L., Anderson, B.E., Duncan, J.L., and Schaeffer, A.J., "The Effect of Vaginal
Fluid on Adherence of Type 1 Piliated Escherichia coli to Epithelial Cells," J. Inf. Dis., 172, 1528-1535, 1995.

Abstract: Wright, E.T., Navas, E.L., Gaffney, R., Duncan, J.L. and Schaeffer, A.J. "Adherence of Clinically Isolated E. Coli to Vaginal Fluid", Am. Urol. Assoc., Mtg., May, 1996.

Abstract: Sensibar, J.A., Qian, Y., Navas, E.L., Gaffney, R.A., Rajan, N. and Schaeffer, A.J. "Two-Dimensional Electrophoretic Analysis of Human Vaginal Fluid Proteins", Am. Urol. Assoc., Mtg., May, 1996.

Abstract: Schaeffer, A.J., Venegas, M.F., Gaffney, R.A., Navas, E.L., Anderson, B.E., Chmiel, J.S. and Duncan, J.L. "Role of Vaginal Fluid in Urinary Tract Infections (UTIs)", Am. Urol. Assoc., Mtg., May, 1996.

Abstract: Rajan, N.,Cao,Q., Navas, E.L., Duncan, J.L., Anderson, B.E. and Schaeffer, A.J. "Identification of Free Oligosaccharides in Human Vaginal Fluid," Am. Urol. Assn., Feb., 1997.

Abstract: Rajan, N., Cao, Q., Navas, E.L., Duncan, J.L., Anderson, B.E. and Schaeffer, A.J. Identificatiion of

Glycoproteins in Human Vaginal Fluid that Bind Type 1 Piliated Escherichia coli, "Am. Urol. Assoc., Feb., 1997.

Bacterial Adhesion Studies - continued

Abstract: Rajan, N., Kaznair, H., Cao, Q., anderson, B. E., Duncan, J. L. and Schaeffer, A. J., "Immortalized Human Vaginal Cells: Bacterial Binding Characteristics," Am. Urol. Assn. Mtg., May, 1998.

Rajan, N., Cao, Q., Qian, Y., pruden, D., Sensibar, J., Duncan, J. L., Anderson, B. E. and Schaeffer, A. J., "Secretory IgA in Vaginal Fluids: Role in Bacterial Adherence," submitted

Rajan, N., Kaznari, H., Pruden, D., Cao, Q., Anderson, B. E., Duncan, J. L. and Schaeffer, A. J., "Bacterial Binding Characteristics of an Immortalized Human Vaginal Cell Line," J. Urology, 162, 1972 - 1976, 2000.

Schaeffer, A. J., Rajan, N., Wright, E. T., Duncan, J. L. and Anderson, B. E., "Role of Vaginal Colonization in Urinary Tract Infections (UTIs)," Advances in Bladder Research, 2000.

Rajan, N., Cao, Q., Qian, Y., Sensibar, J., Anderson, B. E., Duncan, J. L., and Schaeffer, A. J., "Roles of Glycoproteins and Oligosaccharides found in Human Vaginal Fluid in Bacterial Adherence," Inf. & Immun., 67 5027 - 5032, 1999.

Abstract: Schoor, R. A., Cao, Q., Pruden, D., Rajan, N., Klumpp, D. J., Anderson, B. E. and Schaeffer, A. J., "The Effect of Secretory IgA on E. coli Adherence to Vaginal Epithelium: an in vitro Model," Am/ Urol. Assn. Mtg., May, 1999.

Schaeffer, A. J., Rajan, N., Wright, E. T., Duncan, J. L. and Anderson, B. E., "Role of Vaginal Colonization in UTIs," Adv. Exp. Med. & Biol., 462, 339 -349, 1999.

Transferrin Studies

Abstract: Bean, P., Thai, T., Makhlouf, S., Nguyen, D., Hammond, J., Anderson, B., Rittenhouse, H. and Peter, J.B., "An Immunoassay to Quantitate Carbohydrate Deficient Transferrin in Serum," Am. Assn. for the Study of Liver Diseases, Chicago, Nov., 1991.

Abstract: Bean, P., Makhlouf, S., Ranken, R., Thai, T., Subauste, M.C., Kraas, K.M., Hammond, J., Anderson, B. and Peter, J.B.," A Comparative Analysis for Identification of Carbohydrate Deficient Transferrin using Isoelectric Focusing and an Enzyme Immunoassay," Research Society on Alcoholism, June, 1992.

Abstract: Makhlouf, S., Bean, P., Pankow, M. and Anderson, B., "Molecular Differences of Circulating Isoforms of Human Carbohydrate Deficient Transferrin," FASEB J., 7, A1252, 1993.

Abstract: Mahklouf, S., Pankow, M. and Anderson, B. "Production and Characterization of a Monoclonal Specific to Carbohydrate Deficient transferrin (CDT)," Research Society on Alcoholism, June 1994.

Abstract: Makhlouf, S., Davis, L., Ronger, L. and Anderson, B., "Affinity Purification and Characterization of Carbohydrate Deficient Transferrin (CDT) Using a CDT Specific Monoclonal Antibody," Research Society on Alcoholism, June, 1995.

Abstract: Tucker, L., Makhlouf, S., Davis, L., Krasnervich, D. and Anderson, B., "Reactivity of a Monoclonal Antibody to Transferrins from Carbohydrate Deficient Glycoprotein Syndromes, "Am. Assoc. Imm., June, 1996.

Makhlouf, S., Pankow, M.L., Anderson, B. E. and Bean, P., "Immunoassay for Identifying Alcoholics and Monitoring Alcohol Consumption," US PATENT -5702904. December 10, 1997. Official Gazette of the US Patent & Trademark Office Patents 1205 (5 Dec. 30). 1997. 33857.

Transplantation Studies:

Abstract: Fryer, J.P., Blondin, B., Stadler, C., Ivancic, D., Ratner, U., Kaplan, B., Kaufman, D., Abecassis, M., Stuart F. and Anderson, B., "Inhibition of Porcine Endothelial Cell Lysis by Human Serum using Peptides which Inhibit Clq Deposition," Am. Soc. Trans. Surg., May, 1996.

Abstract: Fryer, J.P., Buckingham, F., Ivancic, D., Kaplan, B., Kaufman, D., Abecassis, M., Stuart, F. and Anderson, B., "Prolongation of Discorcant Xenograft Survival by Inhibition of Clq Deposition," Am. Soc. Trans. Phys., May, 1996.

Abstract: Fryer, J.P., Blondin, B., Stadler, C., Ivancic, D., Ratner, U., Kaplan, B., Kaufman, D., Abecassis, M., Stuart F. and Anderson, B., "Inhibition of Porcine Endothelial Cell Lysis by Human Serum using Peptides which Inhibit Clq Deposition," XVI Int. Congress of the Transplantation Society, Barcelona, August, 1996

Abstract: Fryer, J.P., Buckingham, F., Ivancic, D., Kaplan, B., Kaufman, D., Abecassis, M., Stuart, F. and Anderson, B., "Prolongation of Discorcant Xenograft Survival by Inhibition of Clq Deposition," 2nd Bi-annual Symposium on Xenotransplantation, San Diego, October, 1996.

Fryer, J.P., Buckingham, F., Ivancic, D., Kaplan, B., Kaufman, D., Abecassis, M., Stuart, F. and Anderson, B., "Inhibition of Human Complement Mediated Lysis of Porcine Endothelial cells using a Peptide that Blocks Clq Binding to Xenoantibody," Transplantation

Abstract: Fryer, J.P., Blondin, B., Stadler, C., Ivancic, D., Ratner, U., Kaplan, B., Kaufman, D., Abecassis, M., Stuart F. and Anderson, B., "Inhibition of Porcine Endothelial Cell Lysis by Human Serum using Peptides which Inhibit Clq Deposition", XVI Int. Congress of the Transplantation Society, Bareclona, August, 1996.

Fryer, J.P., Blondin, B., Yoder, M., Ivancic, D., Buckingham, F., Kaufman, D., Abecassis, M., Stuart, F. and Anderson B., "Inhibition of Complement Activation and Prolongment of Xenograft Survival by Diaromatic Peptide (Tryptophan-Tyrosine) Conjugates,"

Transplantation Studies - continued

Abstract: Fryer, J.P., Buckingham, F., Leventhal, J.R., Blondin, B., Ivancic, D., Kaplan, B., Kaufman, D., Abecassis, M., Stuart, F. and Anderson, B., "Prolongation of Discorcant Xenograft Survival using Clq Inhibition Peptides," Am. Soc. Trans. Phys., May, 1997.

Abstract: Fryer, J.P., Firca, J., Doering, S., Stadler, K., Roh, J., Hong, A., Blondin, B., Leventhal, J.R., Kaufman, D.B., Abecassis, M., Stuart, F. and Anderson, B., "Avian (IgY) Antibodies: Reactivity to αGal Epitopes and Potential for Blocking Human Anti-aGal Antibodies," Am. Soc. Trans. Surg., May, 1997.

Abstract: Fryer, J.P., Ivancic, D., Buckingham, F., Blondin, B., Leventhal, J.R., Kaufman, D.B., Abecassis, M., Stuart, F. and Anderson, B., "Alteration of the αGal Epitopes of Porcine Tissues and Cells by Sodium Periodate Oxidation" Am. Soc. Trans. Surg., May, 1997.

Abstract: Fryer, J.P., Yoder, M., Kindra, J., Stadler, C., Blondin, B., Leventhal, J.R., Kaufman, D.B., Abecassis, M., Stuart, F., and Anderson, B., "Inhibition of Complement Activation by Diaromatic (Trp-Tyr)Conjugates", Am. Soc. Trans. Surg., May, 1997.

Abstract: Fryer,J., Yoder, M., Kindra, J., Stadler, K., Blondin, b., Leventhal, J., Kaufman, D., Abecassis, M., Stuart, F. and Anderson, B., "Prevention of Classical Pathway Complement Activation by Inhibiting Antibody-C1q Interactions," Am. College of Surgeons, Oct., 1997.

Abstract: Fryer, J.P., Doering, S., Roh, J., Hong, A., Blondin, B., Leventhal, J., Kaufman, D., Abecassis, M., Stuart, F. and Anderson, B., "Avian (IgY) Antibodies: Reactivity to alphaGal Epitopes and Blocking of Human Anti-alphaGal Antibodies," Int. Congress on Xenotransplantation, Sept., 1997.

Abstract: Fryer, J., Buckingham, F., Leventhal, J., Blondin, B., Ivancic, D., Kaufman, D., Abecassis, M., Stuart, F. and Anderson, B., "Prolongment of Discordant Xenograft Survival by Preventing Classical Pathway Activation with C1q Inhibitory Peptides," Int. Congress on Xenotransplantation, Sept., 1997.

Transplantation Studies - continued

Abstract: Fryer, J., Yoder, M., Kindra, J., Wang, H., Zhong, R., Blondin, B., Leventhal, J., Kaufman, D., Abecassis, M., Stuart, F. and Anderson, B., "Inhibition of Complement Activation by Diaromatic (Trp-Tyr) Conjugates," Int. Congress on Xenotransplantation, Sept., 1997.

Abstract: Fryer, J., Ivancic, D., Buckingham, F., Blondin, B., Leventhal, J., Kaufman, D., Abecassis, M., Stuart, F. and Anderson, B., "Alteration of AlphaGal Immunogenicity of Porcine Tissues by Enzymatic Remaval or Periodate Oxidation," Int. Congress on Xenotransplantation, Sept., 1997.

Abstract: Roh, J.D., Hong, A. L., Anderson, B.E. and Fryer, J. P., "Ostrich Anti-alphaGal, Chicken Anti-alphaGal and Griffonia simplcifolia-1 as Potential Competitive Blockers in Xenotransplant Rejection," AAAS, Am. Jr. Acad. Sci., Feb., 1997, Seattle, WA.

Abstract: Wu, S. and Anderson, B. E., "Complement Inhibitors - Use in Xenotransplantation," Student research Symp., Nat. Consortium for Specialized Schools of Mathematics, Sciene and Technology, June, 1998.

Abstract: Wu, S., Chen, K., Napochi, D., Anderson, B. E. and Fryer, J. P., "Pig to Human Transplantation, AAAS Mtg., Am. Jr. Acad. Sci., Anaheim, CA, Feb., 1999.

Abstract: Fryer, J. P., Blondin, B., Leveenthal, J. R., Zhang, J., Pao, W., Kaufman, D. B., Abecassis, M., Stuart, F. and Anderson, B. E., " Anti-alphaGal Xenoantibodies Facilitate Monocyte Adherence to Porcine Aortic Endothelial Cells (PAECs)," Am. Soc. Transplant Surgeons, May, 1999.

Abstract: Fryer, J. P., Ivancic, D., Zhang, J., Leventhal, J. L., Blondin, B., Pao, W., Kaufman, D. B., Abecassis, M., Stuart, F. and Anderson, B. E., " Induced Anti-Porcine Aortic Endothelial Cell (PAEC) Antibodies Upregulate E-Selectin and VCAM Expression in PAECs," Am. Soc. Transplant Surgeons, May, 1999.

Abstract: Shah, A. H., Anderson, B. E., Leventhal, J. R., Pao, W., Zhang, J., Kaufman, D. B., Abecassis, M., Stuart, F. and Fryer, J. P., "Induction of in vitro Accomodation of Porcine Endothelial Cells by Human Anti-alphaGal

Xenoantibodies," Am. Soc. Transplant Surgeons, May, 1999.

Trnasplantation Studies - continued

Abstract: Fryer, J.P., Blondin, B., Firca, J., Leventhal, J., Zhang, J., Shah, A., Pao, W., Kaufman, D., Abecassis, M., Stuart, F. and Anderson, B., "IgY Anti-alphaGal Antibodies Inhibit ADCC of Porcine Aortic Endothelial Cells (PAECs)," 5th Cong. Int. Xenotransplantation Assoc., Kyoto, Oct., 1999.

Abstract: Fryer, J., Ivancic, D., Leventhal, J., Pao, W., Blondin, B., Niekraz, M., Zhang, J., Kaufman, D., Abecassis, M., Stuart, F. and Anderson, B., "The Induced Primate Xenoantibody Response to Non alphaGal Porcine Endothelial Cell Antigens," 5th Cong. Int. Xenotransplantation Assoc., Kyoto, Oct., 1999.

Abstract: Shah, A., Anderson, B., Leventhal, J., Pao, W., Zhang, J., Kaufman, M., Abecassis, D., Stuart, F. and Fryer, J., "Induction of in vitro Accommodation of Porcine Endothelial Cells by Human Anti-alphaGal Xenoantibodies," 5th Cong. Int. Xenotransplantation Assoc., Kyoto, Oct., 1999.

Abstract: Fryer, J., Blondin, B., Leventhal, J., Zhang, J., Pao, W., Kaufman, D., Abecassis, M., Stuart, F. and Anderson, B., "Anti-alphaGal Xenoantibodies Facilitate Monocyte Adhesion to Porcine Aortic Endothelaial Cells (PAECs)," 5th Cong. Int. Xenotransplantation Assoc., Kyoto, Oct., 1999.

Abstract: Fryer, J., Ivancic, D., Zhang, J., Leventhal, J., Blondin, B., Kaufman, D., Abecassis, M., Stuart, F. and Anderson, B., "Induced Anti-Porcine Endothelial Cell (PEC) Xenoantibodies (XAbs) Upregulate E-Selectin and VCAM Expression," 5th Cong. Int. Xenotransplantation Assoc., Kyoto, Oct., 1999.

Fryer, J. P., Zhang, Z., Roslkowski, J., Pao, W., Niekrasz, M., Leventhal, J., Abecassis, M. and Anderson, B., "Isotype and IgG Subtype Switches Associated with an Elicited Primate Xenoantibody Response to Non-alphaGal Porcine Endothelial Antigens," Am. Soc. Transplantation, Chicago, May, 2000.

Transplantation Studies - continued

Tishler, D. S., Fryer, J. P., Anderson, B., Ivancic, D., Leventhal, J. and Zhang, Z., "Temporal Characterization of Anti-alphaGal Mediated cardiac Graft Rejection in a Murine Model," Am. Soc. Transplantation, Chicago, May, 2000.

Leventhal, J., Su, A., Kaufman, D., Abecassis, M., Anderson, B. and Fryer, J. P., "Altered Infectivity of Porcine Endogenous Retrovirus by Protective Avian Antibodies: Implications for Pig - Human Xenotransplantation," Am. Soc. Transplantation, Chicago, May, 2000.

Kim, T. and Anderson, B., "Isolation and Characterization of Human Anti-alphaGal Antibodies," Am. Soc. Adv. Sci., Am. Jun. Acad. Sci., Washington, D.C., Feb., 2000.

Fryer, J. P., Firca, J., Leventhal, J. R., Blondin, B., Malcolm, A., Ivancic, D., Gandhi, R., Shah, A., Pao, W., Abecassis, M., Kaufman, D. B., Stuart, F. and Anderson, B. E., IgY Anti-Porcine Endothelail Cell Antibodies Effectively Block Human Anti-Porcine Xenoantibody Binding," Xenotransplantation, 56, 98 - 109, 1999.

Fryer, J. P., Leventhal, J. R., Pao, W., Stadler, C., Jones, M., Walsh, T., Zhong, R., Zhang, Z., Wang, H., Goodman, D. J., Kurek, M., d'Apice, A. J. F., Blondin, B., Ivancic, D., Buckingham, F., Kaufman, D., Abecassis, M., Stuart, F. and Anderson, B. E., "Sysnthetic Peptides which Inhibit the Interaction between C1q and Immunoglobulin and Prolong Graft Survival," Transplantation, 70 828 -836, 2000.

Walsh, W.E., Anderson, B. E., Ivancic, D., Zhang, Z., Paccini, J. P., Rodgers, T. G., Pao, W. and Fryer, J. P., "Distribution of and Immune Response to Chicken anti-alphaGal Immunoglobulin Y Antibodies in Wild-Type and alphaGal Knockout Mice," Immunology, 101, 1 - 11, 2000.

Cook, C. L., Pao, W., Firca, J. R., Anderson, B. E. and Fryer, J. P., "Simple Purification Methods for alphaGalactose-Specific Antibody form Chicken Eggs,", J. Biosci. & Bioeng., 91, 305 - 310, 2001.

Other Studies

Carruthers, M. and Anderson, B., "Inhibition by Polyanions of Vibrio Parahaemolyticus Adherence: A Physiochemical Effect", J. Inf. Dis., 140, 119-122, 1979.

Jemmerson, R., Kaplan, B., Denton, M.D., Anderas, P., Anderson, B. and Margoliash, E., "Six Related Protein Products from a Single Patient with Multiple Myeloma," Biochemistry, 18, 4676-4683, 1979.

Anderson, B., Donakowski, C., Entwistle, R. and Davis, L., "Reisolation of Immunoreactive Radioiodinated Antigens Using Glutaraldehyde-Insolubilized Antibody Preparations," J. Immunological Methods, 36, 309-314, 1980.

Davis, L.E., Roth, S.A. and Anderson, B., "Antisera Specificities to 1-Ethyl-3-(3-Dimethylaminopropyl) Carbodiimide Adducts of Proteins," Immunology, 53, 435-441, 1984.

Abstract: Cohen, I., Drisdel, R.C. and Anderson, B., "Factor XIII-Catalyzed Polymeric Assemblies in Platelets," 32nd Meeting of the International Committee on Thrombosis and Hematology, Jerusalem, June, 1986.

Pandey, R., Davis, L.E., Anderson, B. and Hollenberg, P.F., "Photoaffinity Labeling of Primary Aromatic Amines to Carrier Proteins to Elicit Antibody Response Against the Amine Haptens," J. Immunol. Methods, 94, 237-246, 1986.

Cohen, J. and Anderson, B. "Immunochemical Characterization of Transglutaminase-Catalyzed Polymers of Activated Platelets," Thromb. Res., 47, 409-416, 1987.

Abstract: Koch, A.E., Burrows, J.C., Marder, R., Domer, P., Anderson, B. and Leibovich, S.J., "Preliminary Characterization of Monocyte/Macrophage (mo) Heterogeneity using Monoclonal Antibodies Generated to U937 Cells and Human Rheumatoid (RA) Tissue Synovial Macrophages," 4th International Conference on Leukocyte Differentiation Antigens, Tissue Antigens, 33, 205 1988.

Other Studies - continued

Abstract: Koch, A.E., Burrows, J.C., Marder, R., Domer, P., Anderson, B. and Leibovich, S.J., "Monocyte/Macrophage (mo/mo) Heterogeneity Defined by a Panel of Monoclonal Antibodies Produced to Rheumatoid (RA) Synovial Tissue Mo," American Federation for Clinical Research, Clin. Res., 37, 413A, 1989.

Abstract: Kim, J.G., Miller, M.M., Anderson, B., Rebar, R.W. and LaBarbera, A.R., "Anti-Ovarian Antibody Titers Correlate with Serum FSH Concentrations in Experimentally Induced Ovarian Failure," Soc. Gynecologic Investigation, March, 1989.

Clark, C.R., Kresl, J.J., Hines, K.K. and Anderson, B.E., "An Immunofiltration Apparatus for Accelerating the Visualization of Antigen on Membrane Supports," Anal. Biochem., 228, 232-237, 1995.

Abstract: Kim, J.G., Anderson, B.E., Rebar, R.W. and LaBarbera, A.R., "Determination by ELISA of Anti-ovarian Antibodies in Premature Ovarian Failure," Am. Fertility Soc., Nov., 1989.

Abstract: Pankow, M.L., Cane, R. and Anderson, B., "Development of Enzyme-Linked Lectin Assay for the Detection and Quantitation of Desialylated Serum Glycoproteins," Fed. Proc., 45, 3359, 1986.

Abstract: Pankow, M.L., Cane, R. and Anderson, B., "Quantitation in Sera of Desialylated Glycoproteins using an Antibody and Lectin Sandwich Assay," Soc. Complex Carbohydrates, Charleston, S. C., Nov. 1986.

Abstract: Clark, C., Kresl, J., Hines, K., Anderson, B. and Mallia, A.K., "An Apparatus for Rapid Detection of Western and Dot-Blotted Proteins," FASEB J., 5, A913, 1991.

Abstract: Davis, L., Jokinen, D., Turk, L., Radvany, M., Theophilus, A., Fitzsimons, E. and Anderson, B., "Immunoassays for Hemoglobin Alc Employing Antibodies Directed to a Reductively Modified Peptide Immunogen." FASEB J., 5, A913, 1991.

Other Studies - continued

Koch, A.E., Burrows, J.C., Marder, R., Domer, P,, Anderson, B. and Leibovich,S.J.,"Monoclonal Antibodies Detecting Monocyte/Macrophage Activation and Differentiation Antigens and Identifying Functionally Distinct Subpopulations of Human Rheumatoid Synovial Tissue Macrophages," Am. J. Path., 138, 165-173, 1991.

Kim, J.G., Anderson, B.E., Reban, R.W. and LaBarbera, A.R., "A Biotin-Streptavidin Enzyme Immunoassay for Detection of Antibodies to Porcine Granulosa Cell Antigens," J. Immunoassay, 12, 447-464, 1991.

Abstract: Holloran, M.M., Haskell, C.J., Carley, W., Shah, M.R., Anderson, B. and Koch, A.E., "4A11: A Cytokine-Inducible Endothelial Antigen," J. Invest. Med., 43, 335A, 1995.

Clark, C.R., Kresl, J.J., Hines, K.K. and Anderson, B.E., "An Immunofiltration Apparatus for Accelerating the Visualization of Antigen on Membrane Supports", Anal. Biochem., 228, 232-237, 1995.

Woods, J. M., Campbell, P. L., Polverini, P. J., Anderson, B. and Koch, A. E., "The Soluble 4A11 Antigen is Angiogenic in vivo and is Upregulated in Rheumatoid Arthritis Compared to Osteoarthritis Synovial Fluid and Serum, submitted for review.

Abstract: Woods, J. M., Campbell, P. L., Polverini, P. J., Anderson, B. E. and Koch, A. E., "The Soluble 4A11 Antigen is Angiogenic in vivo and is Upregulated in Rheumatoid Arthritis Compared to Osteoarthritis Synovial Fluid and Serum," Assoc. Clin. Res. Mtg, Nov., 1997, Washington, D.C.

Abstract: Woods, J. M., Campbell, P. L., Polverini, P. J., Anderson, B. E. and Koch, A. E., "The Soluble 4A11 Antigen is Angiogenic in vivo and is Upregulated in Rheumatoid Arthritis Compared to Osteoarthritis Synovial Fluid and Serum," Am. Fed. Med. Res., April, 1998, J. Inv. Med., 46, 233A, 1998.

PATENT APPLICATIONS

1. Binding of immune complexes by modified forms of c-reactive protein.
   Applicants: Northwestern University and
   Rush - Presbyterian - St. Luke's Medical Center
   Inventors: Potempa and Anderson
   U.S. application Serial No. 07/582,884,
   Filed: October 3, 1990
   Refiled: 08/271,137; July 6, 1994 - 2545/73
   Status: Issued: January 14, 1997; US Letter Patent No. 5,593,897
   PCT application number PCT/US89/01247
   Filed March 31, 1989 (2545/11)
   Status: Nationalized

   Australian application no. 34485/89
   Filed: March 31, 1989 (2545/24)
   Status: Issued, 6/11/93; Serial #633488

   Japanese application No. 1-504716
   Filed: March 31, 1989 (2545/26)
   Status: Pending, awaiting examination

   Canadian application No. 595,543
   Filed April 3, 1989 (2545/10)
   Status: Pending, no action yet

   EPO application No. 89904944.9
   Filed March 31, 1989 (2545/25)

2. A synthetic peptide and its uses
   Applicant: Northwestern University
   Inventors: Baumann and Anderson
   U.S. application Serial No. 07/598,416
   Filed: October 16, 1990 (2545/28)
   Status: Issued November 15, 1994
   Patent Number 5,364,930

   PCT application number PCT/US91/07581
   Filed: October 9, 1991
   Status: Pending

PATENT APPLICATIONS- continued

3. Binding of aggregated immunoglobulin or immune complexes by serum amyloid P component
Applicant: Northwestern University
Inventors: Anderson and Brown
U.S. application Serial No. 07/672,526

Filed: March 19, 1991 (2545/21)
Status: Issued 6/22/93, P-5,221,628

4. Immunoassay for glycosylated proteins employing antibody to reductively glycosylated amino acids
Applicant: Northwestern University
Inventors: Davis and Anderson
U.S. application Serial No. 07/397,781 (2545/5)
08/068,525 (5/27/93) (2545/51)
08/151,073 (11/12/93) (2545/52)
Filed: August 23, 1989
Status: Granted; U.S. Letters Patent No. 5,484,735

PCT application no. PCT/US90/04666
Filed: August 17, 1990 (2545/23)
Status: Nationalized

EPO application no. 90913261.5
Filed: August 17, 1990 (2545/37)
Status: Granted

Japanese application no. 2-512516
Filed: August 17, 1990 (2545/38)
Status: Pending, awaiting examination

PATENT APPLICATIONS- continued

5. Immunoassay for detecting and monitoring alcoholics
Applicants: Northwestern University and Immtech Int. Inc.
Inventors: Makhlouf, Pankow, Anderson and Bean
U.S. application Serial No. 07/765,169;
Filed: September 25, 1991 (2545/8)
08/272,852; July 08, 1994 (2545/74)
Status: granted

PCT application Serial No. PCT/US92/08136
Filed: September 25, 1992 (2545/44)
Status: Nationalized

EPO application no. 92921176.1
Filed: August 25, 1992 (2545/60), granted

Japanese application no. 5-506376
Filed: 9/25/92 (2545/61)

Canadian application no. 2119651
Filed: 9/25/92 (2545/59), granted

Australian application no. 27577/92
Filed 9/23/92 (2545/58), granted

6. Methods of Treating Cancer Using Modified C-Reactive Protein
Applicants: Northwestern University and Immtech Int. Inc.
Inventors: Potempa, Kresl and Anderson
U.S. application Serial No. 07/874,263
Filed: April 24, 1992
Status: Issued December 12, 1995
US Letters Patent No. 5,474,904
PCT application no. PCT/US/03769
Filed: 4/22/92 (2545/50)
Status: Nationalized
EPO application no. 93910710.8, Filed: 4/22/93 (2545/81)

Japanese application no.5-518361, Filed: 4/22/93 (2545/80)

Canadian application no. 2432001, Filed: 4/22/93 (2545/80)

Australian application no. 41109/93,
Filed: 4/22/93 (2545/79)

PATENT APPLICATIONS- continued

7. Method of detecting cancer
Applicants: Northwestern University and Immtech Int. Inc.
Inventors: Anderson and Davis
U.S. application Serial No. 07/939,830
Filed: September 3, 1992 (2545/9)
Status: Issued December 27, 1994
Patent Number 5,376,531

Japanese application No. 4-293052
Filed: October 30, 1992 (2545/45)
Status: Pending

8. Methods of Imaging Cancer Cells Using Modified C-Reactive Protein
Applicant: Northwestern University
Inventors: Potempa, Kresl and Anderson
U.S. Application 149,663
Filed Nov. 9, 1993
Status: Issued December 12, 1995
US Letters Patent No. 5,474,904

9. CIP to Synthetic Clq Peptide Fragments - use in transplantation
Applicant: Northwestern University
Inventors: Baumann, Anderson and Fryer
Filed: April 6, 1996 to US patent office
Status: granted

PCT of same:
Application and Inventors: Baumann, Anderson and Fryer
Filed: April 4, 1997
Status: withdrawn

10. Method of Inhibiting Complement
Applicants and Inventors: Anderson and Fryer
Filed: April 14, 1997 to US patent office
Status: granted

11. Peptides Comprising Aromatic D-Amino Acids and Methods Of Use
Inventor: Byron E. Anderson
US patent filed July 3, 2002
PCT application filed July 3, 2003